Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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CONTENTS OF MAY NUMBER.

The Tea Plant—Comparison of Labor in China and the United States, etc., Junius Smith	138
Guano—its Great Merits as a Fertiliser	139
Southern Cattle, D**; Cultivation of Corn, S. R. Gray; Cultivation of the Ruta Baga, Valentine S. Hallock	140
Corn and Apples, W; California Farming, T. A. S.	141
Pork—Bacon—Ham, No. 2	142
On the Assimilation of Nitrogen from the Air by Plants, and on the Influence of Ammonia in Vegetation	143
Swamp Draining of Southern Lands; McCullum's Dough Mixer and Biscuit Machine; Experiments Among Farmers	144
Prices of Draining Tile; Hints in Regard to the Preservation of Purity of Breeds, and the Improvement of Stock, C. H. Cleaveland	145
Good and Bad Effects of Salt on Animals	146
The Traveller, No. 5, Solon Robinson	147
Fattening Cattle, W. W. B.; Fowl Breeding, R. Linsley	149
Improved Breeds of Cattle, Octogenaro	150
Shorthorn Cattle—the Imported Bull Exeter; How to Make a Happy Home; What Seed Will You Plant	151
Shorthorn Bull Splendor, John R. Page	152
Plows and Plowing, F. Holbrook	153
Qualities of American Produce	157
Review of the March Number of the Agriculturist, Reviewer	158
Cucumbers; The Most Effectual Way to Preserve Apples	159
Notes From a Kitchen Gardener's Memorandum Book, No. 4	160
LADIES' DEPARTMENT: English Women	161
Foreign Agricultural News	162
Editors' Table	163
Review of the Markets	164

THE TEA PLANT—COMPARISON OF LABOR IN CHINA AND THE UNITED STATES, ETC.

From the Journal of Commerce, we extract the following interesting remarks from the pen of Dr. Smith, who is taking unusual pains to establish the cultivation of the tea plant in the United States:—

The labor of inland transportation of tea in China, a distance, upon an average, from the tea plantations to the shipping port of Canton of 800 to 1,000 miles, and a waste of six weeks to two months' time, costs 4 cents a pound, equal to 33 per cent. of the value of the tea at the place of its growth. This enormous expense of transportation only may startle some of our friends, when they couple such an expenditure with the boasted cheapness of labor in China. But when they consider that in China, there is an entire absence of railroad, steam navigation, and even of common roads; that whole cargoes of tea are constantly carried upon the backs of porters, an eighteen days' journey over a mountain pass, to Ho Keil and the rivers of Kyang, besides numerous other passes, he will perceive that cheap manual labor in that country is the most extravagant power for the transportation of goods.

I suppose that in no part of the United States, the cost of inland transportation from the place of growth to a shipping port would equal one quarter that sum, or occupy one tenth of the time. The wages of day labor are entirely nominal, unless we couple the amount of labor performed.

The dearness of Hindoo labor, compared with American, although nominally cheap enough to starve an ordinary man, is officially settled by Dr. Jameson, superintendent of the tea plantations of the East-India Company, Himmalaya Mountains, northwest provinces of India, in his report of 1847, to the governor. He remarks, "that at task work, three acres of tea land to dress, weed, and keep in order, is the allotment to one laborer. I should be glad to be informed how many acres an American farmer, having the land already planted and in order to his hand, and nothing else to do, would keep in good condition? In this part of the Union, embracing all the slave-holding states, one slave cultivates and keeps in order ten acres of cotton and ten acres of corn annually. A negro laborer, therefore, in the United States, performs more than six times the labor in the same time that a Hindoo does in India. That is undoubtedly about the difference of physical force. The payment, therefore, of 6 cents a day to a Hindoo laborer would be equivalent to the payment of 36 cents to a field negro laborer in the United States. Cheap labor compels cheap living; a little boiled rice without animal food, just keeps the attenuated frame of the Hindoo in existence, but renders him incapable of severe trial. The negro is well and amply fed three times a-day upon the strongest food consumed by man—Indian-corn bread, hommony, and bacon. His muscular and hardy frame shows his force.

I have no desire to see people of this country live without labor, but I wish to see them live by their labor. In nothing are the blessings of the curse more manifest, than in the necessity entailed on man to labor for his bread. A state of moral degradation, inconceivably wretched, follows a condition of general indolence.

A few more particulars will show the favorable position in which the American agriculturist is placed, and I apprehend will be sufficient to confirm, in the judgment of a discreet observer, the truth and validity of the principle advocated. The nominal value of labor in Java, China, and India is perhaps sufficiently known to render a repetition here unnecessary; but the contingent expenses of freight, insurance, &c., are important items in the aggregate cost of labor, and claim some attention.

Freights of tea and other goods from China and India are $24 a ton of 40 cubic feet to Europe; time occupied in a passage four to six months. Freights from the United States to Europe, $6 a ton; time occupied in steam ships, fifteen days. Insurance, from China and India to Europe, 3 per cent. From the United States to Europe, by steamships, one half per cent. Mark the difference, and see how soon your cheap labor exceeds your dear. Inland and foreign transportation, with the consequent necessary expenses, constitute a part of the cost of labor, just as much as tilling the soil, in order to supply the market. Without further investigation, I am content to rest the claims of the American cultivator for success, upon the strength of this argument. The difference in the cost of the produce delivered in the market gives us the power of it, and all the wealth the East-India Company can pour out, in support of their enterprise, will avail nothing. Like the forced growth of cotton, the more they expend, the more they will lose.

I cannot close this communication without expressing my gratification in the removal of my tea plants, last week, from the village of Greenville to this plantation. I never before had an opportunity of examining the roots of the plants put out when I first came to Green-

ville. I saw last week every plant lifted, and examined the roots. They grew remarkably last summer, and are now fully rooted, with fine large main and collateral roots with an abundance of fibrous radicals. They all stood the snow, eight to nine inches deep upon a level, on the 3d of January, and the severe frosts of winter, without the slightest covering or protection, and without the loss of a single plant. They are now all forming part of the plantation, composed of those received from China last June, and a few planted the first week in June, which germinated the 17th of September. All these young plants were thinly covered with straw. Some of them have lost their foliage, others have not. The stems do not appear to have sustained any injury. The fresh buds are beginning to shoot. I cannot help thinking that we have now demonstrated the adaptation of the tea plant to the soil and climate of this country, and succeeded in the permanent establishment of the plant within our own borders.

JUNIUS SMITH.

Greenville, S. C., March 12th, 1851.

GUANO—ITS GREAT MERITS AS A FERTILISER.

THE vast superiority of guano over all other manures is attributable to the fact, that it is wholly composed of animal remains, concentrated by the evaporation of most of its moisture, at the same time that no portion of its substance has escaped in consequence of those insidious changes, known as fermentation, decomposition, &c., by which new products are formed, and some of the most nutritive elements are evolved and pass off as gases. This condition, so different from what is observed elsewhere, over nearly the whole surface of the globe, is owing to the circumstance that these deposits are found in a dry, warm climate, where rains are almost wholly unknown. The moisture voided with the excrements of the birds is soon evaporated in the dry atmosphere, as well as that contained in the refuse fish, (which constitutes their exclusive food,) their broken or addled eggs, together with their feathers and carcasses, thus withdrawing from these substances one of the indispensable requisites of decomposition. There is a gradual change, however, going forward in these remains, by which the recent animal features are broken up, their form and texture slowly altered and reduced to a fine powder, and they at last, perhaps after ages of rest, have assumed that brownish hue, and homogeneous mass, known as Peruvian guano.

The simple statement of its origin and subsequent condition, clearly reveals the full merit of guano, unapproached and unapproachable in value by any other manure. The analyses of average specimens of Peruvian guano have been repeatedly made, and with nearly the same result. We subjoin one, as indicating, with little variation, the character of most of the guano imported for American consumption. This average was taken from numerous analyses made by Dr. Anderson, of Scotland. It gave of

Organised matter and ammonical salts,	53.16
Phosphates,	23.48
Alkaline salts,	7.97
Water,	13.73
Sand,	1.66
	100.00

The quantity of ammonia yielded by the above was 17 per cent. The proportion of phosphates is also very large, being nearly one fourth of the entire quantity, which is acounted for in the fact that these sea fowls subsist solely on marine fish, which yield large quantities of these valuable ingredients.

Von Martius estimates guano to be five times as valuable as night soil, and four times more so than pigeon dung; and Liebig considers the importation of *one cwt. of guano*, when properly applied as manure, as equivalent to the importation of *eight cwt. of wheat.*

The supereminent value of guano may be fairly claimed, because it embraces every element required by plants for their most rapid developement and growth, with the exception, perhaps, of potash, except such as abound in every soil and atmosphere, and even potash it probably aids in liberating from the soil, where it has been securely locked up for ages. The silicates of soda, magnesia, and other salts, almost everywhere exist in sufficient quantity to furnish the necessary food for crops, while the organic elements, carbon, hydrogen, and oxygen, are profusely furnished by the dews and rains, and atmosphere. Nitrogen, the only organic element, so difficult of arrest and appropriation by plants, while floating through the air, is abundantly furnished by the various ammoniacal compounds of guano.

There is no doubt that much of the efficacy of guano is owing to the large proportion of phosphates it contains, which are so minutely divided as to yield all their vegetable food the instant it is demanded, to which demand the rootlets are strongly stimulated by the presence

of the ammoniacal salts with which the phosphates are intimately blended.

SOUTHERN CATTLE.

THERE are some individuals in this state who own as many as 6,000 head of cattle. They seldom feed anything but their oxen. About the 1st of March, the person owning the cattle gets all his cow drivers together, generally 30 or 40 in number, mounted on horses of his own raising. They then proceed to the prairie where the cattle range, and collect them together for miles around, into a herd; they then proceed to separate the cows and calves from the dry cattle. This, as you would most likely expect, occupies a whole day, with all the hands which can be obtained.

After getting the cows and calves by themselves, they are driven into a large pen, capable of holding several thousand. The calves are then kept up for a month or six weeks (their mothers being turned in with them every evening where they remain all night and are turned out again in the morning). In these large herds, the increase is generally 1,500 to 1,600 a year, and their owner sells 700 or 800 beeves annually, at from $10 to $15 per head.

I think this state will eventually be one of the greatest stock-raising countries in the world. It is everywhere well watered, and consists almost wholly of prairie land, which, in all seasons of the year, contains a sufficient quantity of grass to sustain any number of cattle; and moreover, the climate is so mild that there is not the least necessity for artificial shelter during the winter. In this country, we very seldom hear of cattle dying with the murrain, and similar diseases to which they are subject. Sometimes in the heat of summer, the fattest of the cattle die; but this is seldom the case unless they have been driven very hard.

Most of the cattle in this state are of the Spanish descent, and may be known by their long horns, fierce and savage looks, and their apparent dislike of mankind. It is almost impossible to tame a Spanish cow, so that she will come into the pen without trouble, or be milked without being tied; for this is the way in which most of our milch cows are tamed; but after a while, they get so that they will only stand when the rope is around their horns. But what is very singular, you seldom see a large stock raiser who has a sufficient quantity of milk and butter for his table. I am well acquainted with a man, who owns 3,000 head of cattle, and yet is obliged to buy all his butter.

The cattle are never salted, and never see a pen more than once or twice a-year. D* *

Houston, Texas, Jan., 1851.

CULTIVATION OF CORN.

I PLANTED one acre in corn; the ground was manured with 35 ox-cart loads of unfermented dung, which was evenly spread over the surface, and directly after spreading, it was turned under as deep as we could plow the ground, with a heavy, iron-beamed plow. The ground was subsequently well harrowed, and then marked out with a plow in rows, three feet apart. The seed was rolled in plaster, and planted in hills, varying from two to two and a half feet distance from each other, on the 14th day of May last. We planted 18 quarts of good seed, and the corn was not thinned out any, as the main object was to get a good growth of fodder; and as soon as the corn came up, it was plastered on the hill, and was afterwards ashed in like manner. It received two dressings with the hoe, and was cut up the 20th of September. It was husked in October following, and the product was 136 bushels of ears of sound corn, and two and one fourth tons of excellent and well-made fodder. The whole expense of raising and securing the crop, including seed, plaster, and ashes, I find amounts to $11; we consider the crop richly worth $40. I was disappointed in the result, as I expected more fodder and less corn. S. R. GRAY.

Salem, N. Y.

—

We wish our correspondent had given the exact amount of plaster and ashes he used, and informed us as near as possible, the cubic yards or feet of his 30 loads of manure. The experiment would then have been more definite. However, as it is, we are much obliged by the article.

CULTIVATION OF THE RUTA BAGA.

ACCORDING to promise, I now send you an account of the ruta-baga crop I raised the past season, on two acres, six or seven rods of which were nearly destroyed for the want of an underdrain. The whole crop was 1,800 bushels. The acre which did not require underdraining, grew 1,015 bushels.

The field used to grow this crop, had been laid down to grass for the last ten years, and the crops taken off without the use of manure during that time. The soil is a dark-colored gravelly loam.

The manure used for the two acres was a compost of 10 loads common barnyard manure,

five loads of scrapings of the bottoms of charcoal pits, 30 bushels poudrette, five bushels of ashes, and four bushels of plaster, thoroughly mixed together. This compost remained seven days, and was then tossed over and left for eight days, at the end of which time, it was put upon the ground in a high state of fermentation. As a load was spread, the harrow was passed immediately over it, to prevent the escape of the gases. The seed was drilled in on the 25th of June—harvested in the month of October.

Expenses of plowing sod,	$4.00
Harrowing and light plowing, without moving sod,	3.00
Harrowing in manure,	1.00
Spreading manure,	2.00
Two pounds of seed, at 75 cts. per pound,	1.50
Drilling in seed,	1.00
Horse and man with steel-toothed cultivator,	3.00
Thinning and hoeing seven days, at 75 cents a day,	5.25
Harvesting into cellar 14 days,	10.00
Interest on land, valued at $100 per acre,	14.00
	$33.75
1,800 bushels, at 12½ cents,	$225.00
Net profit,	$191.25

I have taken the low rate of one shilling per bushel, as it appears like a large story at that; but, in truth, I am receiving for 500 bushels, 18 cents, and retailing as many as I can spare at 25 cents per bushel, which would very much enlarge the amount. VALENTINE H. HALLOCK.

Northeast Centre, Feb., 1851.

The above is the actual result of one of our best practical farmers, in old Dutchess county. We hope it will not frighten anybody from doing likewise, now that it is recorded in a *book*. Carrots are also much raised in this county. Will any of our good friends there give us an account similar to Mr. Hallock's of their experience in this crop?

CORN AND APPLES.

SOME years ago, my father was in Dutchess county, and saw some nice corn, and took with him to Long Island, a few ears to plant, but forgot it in the following spring, until two weeks after his other corn was planted. He then planted it, and had corn to boil two weeks earlier than from his first planting. The next year, it was but little earlier, and the third year he could perceive no difference.

This reminds me of the Baden corn, and our old friend, Thorburn's Chinese tree corn; and about which there were so many contradictory reports. According to the various statements, they were both very early, and very late, medium in ripening, and by some, highly extolled, and by others bitterly condemned.

Some attribute the late ripening of corn, mainly to the quality of food given it, without taking into view the difference of latitude where it grew, and where it was planted. Corn planted either north or south from where it grows, will ripen either earlier or later, as the case may be, which has led many into error, in regard to the quality of different varieties.

Apples.—A neighbor of mine, who has paid much attention to the culture of fruit, (in Westchester county, N. Y.,) recently informed me that his Vanderveer apples had, of late years, become so poor and worthless, that he thought of cutting down most of the trees. He had both young and old trees, growing in different soils and situations, and the produce was all alike. He also stated, that several years ago, his golden pippins were very poor and worthless, and greenings also; but both kinds are now doing better, and produce good fruit. The Newton pippins have produced very poorly, and the fruit has been quite indifferent for a number of years. I am not aware that his trees showed any marked difference in their appearance, at the different periods alluded to. It would be interesting to know whether these peculiarities have marked the above varieties in other sections of the country. W.

CALIFORNIA FARMING.

A CORRESPONDENT from San Francisco thus writes us: "Although everything of the grass kind gets parched here in the dry season, still it is a first-rate farming country. It is only *apparently dry*. Dig down three or four inches, and the ground is moist enough. We have only to plant in the proper season; the crops then get a good start, and however dry it may be after that, they grow well, owing to the retention of the moisture a little below the surface. Any quantity of the best and largest vegetables I ever saw are grown here. I weighed a flat turnip, last evening, and found it 30½ lbs.; a cabbage head 30 lbs.! Just think of that! Potatoes are proportionably large, dry and mealy. One of my friends planted 30 acres at Bodega, 60 miles up the coast; only plowed them once after they were up—did not hoe them at all, and yet he got at the rate of nearly

400 bushels per acre—say about 12,000 bushels from his 30 acres. These he sold at 10 to 11 cents per pound. Thus the crop produced him about $60,000! Who would not like to farm it at this rate? But such high prices can be calculated on no longer; and so many are going to plant this spring, I have no doubt that potatoes, and everything else in the vegetable way, will be as cheap with us, the coming summer, as in New York.

Grain, flour, beef, pork, butter, and lard are very low here now, and selling at a great loss to the shippers.

Sheep have recently been introduced here in large numbers, and of course will soon be plenty. Of horses and cattle, we found thousands among the Spaniards, when we first came here; they have never been high priced. Wild oats abound, and with grass, make abundant food for stock. In fact, they need never be foddered in this climate. The grass is green and grows abundantly all winter. T. A. S.

PORK—BACON—HAM.—No. 2.

Seeing that the bony structure, gelatinous substances, and muscles are the parts of the animal which earliest arrive at their full development, it follows that, other things being equal, those breeds which arrive at their full growth in the shortest period will be the kinds naturally adapted to secrete a superabundance of fat amounting to disease, (but which is the farmer's profit,) in the shortest period from the time of birth, and consequently least expenditure of food, presuming animals of different breeds but of like age, eat like quantities. Carrying this comparison a step further, namely, that if two animals so treated and killed at the same age, (say at nine or ten months,) were to be found when dressed, to weigh alike; but the one animal, say an improved Essex, and the other an Old English pig, their marketable value would be very different, fully 20 per cent. The first would present a fine, thick coating of firm fat, embedded in the cellular tissue, the ham would present the epicurean quality of marbled flesh, with a due amount of external fat, and the omentum, (caul,) would yield a fine leaf of white lard; the roasting pieces, if cut out for that purpose, such as the muscles running from the neck down to the loin, and including the joints commonly called the spare rib and loin, will be found tender, juicy, and fat. Another great advantage of this breed is, that in proportion to its size, the weight of the fine joints and pieces, such as the ham, shoulder, and belly, where the desirable intermixture of lean and fat, so much coveted by epicures, is to be found, is much greater, relatively to the whole carcass, than will be found in the larger breed.

On examining the carcass of the larger breed, the enveloping fat will be found of a light-grey color, soft and flabby; the muscles stringy, and when salted, will run up greatly, yielding at the same time a large quantity of brine; so much so, that when dry, the whole weight will be found to have diminished in a much greater proportion than the same weight of pork from the smaller breed. To say nothing of the greater weight of bone in the latter than in the former kind, in cooking, the meat from the first will be found scarcely to diminish in size, whilst the second will be seen to shrivel up considerably. This will be especially seen in the belly parts. The cause of this difference is, that in the matured animal, the cellular tissue, ligaments, &c., have fully developed themselves—have become firm and compact; whilst in the growing animal, these portions of the body remain in a softer and more gelatinous state, in consequence of the presence of moisture. It will be seen that this form of tissue is almost indispensable to the growing animal, in order to adapt it to its constantly-increasing expansion of frame. When arrived at its full growth, this softness gives place to firmness and compactness of texture. A less amount of water is now found in the tissues, and the flaccidity of youth is succeeded by the elacticity of adolescence—the compactness and strength of maturity being followed by the rigidity of age.

The effects arising from cooking and salting meat in the forms presupposed are in unison with the above facts. In meats, salted or cooked, derived from the immature animal, the gelatine is dissolved out of the tissue, and the animal fibre contracts, which, combined with the circumstances of the tissues bearing so much larger a ratio to the fatty and muscular parts, cause the meat to contract and shrivel up, whilst the disproportion of sinewy substance to the whole mass makes the meat hard and tough; at maturity, the tissues are capable, in boiling, of absorbing moisture and becoming softened. This kind of meat has consequently the tenderness so desirable. Although of two animals treated as described, the profit decidedly preponderates in favor of the smaller breed, it by no means follows if the experiment be carried further; that is, until the larger breed has arrived at maturity, that the profit would not be with the larger animal; as after the smaller breed has

arrived at a certain amount of obesity, it would merely become a consumer of food without any commensurate advantage. On the other hand, the larger animal would be constantly developing its frame; and when fully matured, I have my doubts whether any animal yields so large a return of meat for the quantity of food consumed as selected mature animals of the Old English breed. In this respect, the improved Berkshire bears an intermediate place between the smaller and the larger breed, arriving at maturity earlier; but I doubt, when fully grown, whether it puts on the same quantity of flesh for an equal amount of food, and in so short a space of time as the old large breed at maturity. Of the three breeds now named by way of illustration, my own experience leads me to decide that for all purposes, whether as fresh pork, pickled pork, ham, and bacon, the merrits of the improved Essex exceeds all other kinds; that the improved Berkshire follows; whilst the old large kind is a mere bacon pig; as such, however, it is highly esteemed in the farm house; the huge flitch, with its great depth of fat, being considered the most economic food for the laborer—in which opinion he will be found to concur, as whenever he has a choice, or from circumstances is compelled to purchase for himself he will always be found to prefer the thick fat part of the flitch.—*Journal of the Royal Ag. Soc.*

ON THE ASSIMILATION OF NITROGEN FROM THE AIR BY PLANTS, AND ON THE INFLUENCE OF AMMONIA IN VEGETATION.

Many years ago, M. de Saussure remarked that a solution of sulphate of alumina became, if exposed to the air for a sufficient length of time, converted into ammoniacal alum. This observation, made in the year 1804, demonstrated the existence of ammonia in the atmosphere. Since the time of M. de Saussure, many chemists have endeavored to ascertain the quantity of ammonia that exists in the air by more expeditious and more exact methods. The importance attributed by physiologists to ammoniacal compounds in the development of plants, was the cause of these endeavors made by the chemists. It is the general opinion that the source from which plants derive their nitrogen is ammonia existing either in the soil itself, or in the manure laid upon it, or in the atmosphere.

After having satisfied myself, by a long series of experiments made on much larger quantities of air than have been analysed by my predecessors, that the quantity of ammonia in the atmosphere is scarcely appreciable, if pains be taken to avoid sources of error which may be caused by accidental emanations of the gas, I was led to doubt the reality of the influence attributed to ammonia in vegetation.

To clear up these doubts, I sowed a certain number of seeds in a mixture of equal quantities of white sand and brick dust, which had been previously calcined, for many days, in a porcelain furnace, in order that all organic matter in them might be utterly destroyed. This mixture was placed in a certain number of pots, and to it was added 5 per cent. of ashes obtained by the combustion of the plants with the seeds of which I was experimenting. The pots were placed under a bell glass, hermetically sealed. The air inside the glass was renewed every day by means of a very large aspirator (containing 631 litres at zero, under a pressure of 760). But as this quantity of air, though large, did not contain sufficient carbonic acid for the purposes of vegetation, 5 and afterwards 7 per cent. of this gas was added by means of an apparatus from which the gas escaped bubble by bubble, during the whole of the time occupied by the renewing of the air. The air which came out from the bell glass was conducted into an apparatus in which all the ammonia present in the air was separated from it.

Thus two experiments went on at the same time; in the first, I dosed the ammonia with a certain quantity of pure air; and in the second the ammonia with a nearly equal quantity of air, which had nourished the plants under the bell glass. By comparing the results of these two analyses, I was enabled to see whether the ammonia of the air had taken any part in the development of the plants. On the other hand, by previously analysing a certain number of seeds similar to those with which I was experimenting, I ascertained how much nitrogen was introduced under the bell glass in the seeds. When the experiment is finished, I shall be able to ascertain, by similar analyses, the quantity of nitrogen assimilated during the experiment; and from that again, whether this nitrogen was derived from the ammonia or the nitrogen of the air.

Although the plants have not yet been taken out of the apparatus, the question may be considered as determined. It is quite clear that a certain quantity of nitrogen has been assimilated by the plants, and this nitrogen was derived from that of the air; for the plants under the glass have become developed in a remark-

able degree, and the air on coming out of the bell glass contains just as much ammonia as it did on its entry. Moreover, had the ammonia of the air been wholly assimilated by the plants, this conclusion would not be invalidated, since the quantity of ammonia introduced by the air, during the four months the experiment has been going on, does not exceed 0.75 or 1.15 grains, a quantity too small to have had any considerable influence.

So that the consequence to be deduced from the mere inspection of the bell glass is, that the nitrogen of the air has been directly assimilated by the plants, and that the ammonia in the air has had no sensible influence. This being ascertained, I next proceeded to determine the influence that a given quantity of ammonia, added to the air, would in its turn, have on vegetation.

For this purpose, I got more of the seeds on which the first experiment was made, and put them in pots under a bell glass as before. The air inside the glass was renewed, and 5 and afterwards 7 per cent. of carbonic acid was added as before. In short, the only difference was, that in this new experiment, a certain quantity of ammonia was daily introduced under the bell glass.

From the very first day, the influence of the addition was manifested. The leaves of the plants became tinged with a fresher and brighter green; the stems rose higher, the branches more numerous, had more leaves; all the plants, however, were not affected to the same degree, the greatest change being observed in the cereals.

In pure air, the cereals were sickly, blanched, their stems laid down instead of growing upright; in air containing ammonia, they were strong, straight, and from their upright stems sprung numerous leaves. So that a second conclusion may be drawn from the mere inspection of the apparatus, namely, that ammonia is favorable to the development of plants, and more especially to that of cereals.—*By M. Ville, in Comptes Rendus. Trans. for Gard. Chron.*

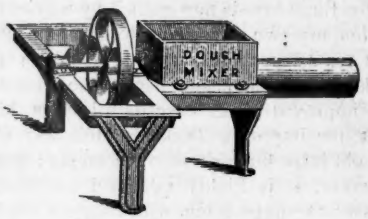
SWAMP DRAINING OF SOUTHERN LANDS.

We have the following results of swamp draining, from one of the most enterprising and intelligent of our friends in South Carolina:—"My swamps work pretty well this winter. They made a crop last year which equalled my highest expectations. In this section, 500 pounds of seed cotton per acre is an excellent crop, and the average of the state about 400 pounds.

On my oldest 300 acres of swamp, I averaged 930 pounds, and on my best acre, which had in it 30 trees standing, 14 upturned roots, and numberless stumps, I made 2,746 pounds. This was not better land than a greater portion of the rest, but was *dried* earlier, being in the fork of two ditches. I think eventually, I shall average 2,000 pounds on all of it."

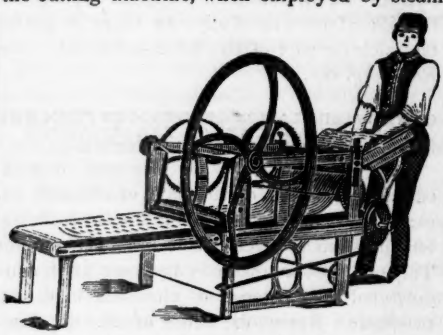
Mc CULLUM'S DOUGH MIXER AND BISCUIT MACHINE.

The improved machinery for manufacturing biscuit, recently patented by Messrs. Mc Cullum, is becoming into general use, so much so that not a bakery in the country should be without it.



Dough Mixer.—Fig. 22.

The dough mixer is stated to be capable of working off 75 barrels of flour in a day; and the cutting machine, when employed by steam



Cutting Machine.—Fig. 23.

power, will cut the dough into crackers, of 60 barrels, or by hand power, 40 barrels of flour in the same time.

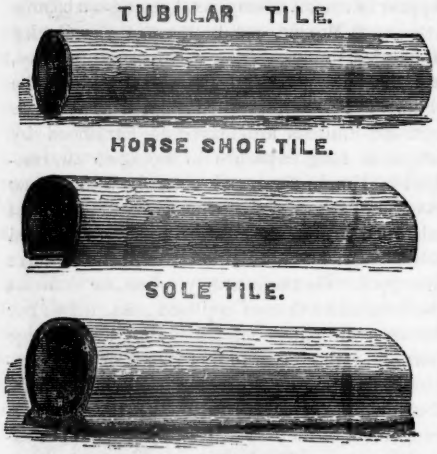
EXPERIMENTS AMONG FARMERS.

One of our most intelligent and largest Southern planters, thus puts forth battle against our worthy Reviewer: "He makes the very absurd points, that we must take such improvements as we can get, and not expect complete ones, as if incomplete ones were of any more value than a rotten egg." Not so fast, Dear Sir. In the absence of our very worthy captain, just now, we say for him, we accept the comparison of the *egg*, but not the *addling*, unless the experi

ment has been brooded over till all hope of vitality is fled. We admit the egg, but in the *process of incubation.* It may be only half hatched by some maternal biped; and it is the duty of those who are ambitious of seeing the future fledgelings, that they brood over and develope these incohate, undeveloped chicks.

PRICES OF DRAINING TILE.

INQUIRY has often been made of us concerning the prices of draining tiles manufactured in this country. We are now happy to furnish that information, by referring our readers to the advertisement of Messrs. A. S. Babcock & Co., of Albany, on p. 167, of the present number. The classes of tiles which they furnish are represented in the adjoining cut.



DRAINING TILES.—24.

HINTS IN REGARD TO THE PRESERVATION OF PURITY OF BREEDS, AND THE IMPROVEMENT OF STOCK.

WHILE a lad, I resided in the same town with an old physician, who then gave the greater part of his attention to the rearing of mules for the West-India market; and there was a fact brought to the notice of all who observed closely, that seems to have a very important bearing upon the retention of purity of blood, and the improvement in the breeds of animals. *It was observed that after a mare had borne a mule, she never would bring forth a colt of any value, because it would possess so much the appearance of a mule as to render it unsaleable.* Suspecting this rule might apply as well to other animals, I observed that a spotted cow of the native breed produced her first calf, whose sire was a deep red, of a similar color to the male parent, and for five or six subsequent years, although she was covered by a spotted, brindle and a dark-brown bull; yet her calves were all of a deep red.

I made many similar observations at the time, yet, as they were not placed upon record, I do not purpose to refer to them except as it relates to sheep. I lived in a wool-growing region, and we farmers' sons prided ourselves upon wearing home-spun "sheep's grey" for pantaloons; and to be able to keep in the fashion, it was necessary to have at least one black sheep in the flock. If one of the ewes brought us a black lamb for her firstling, we felt quite sure she would continue to do so the remainder of her life, and if we already possessed as many of those wearers of sable coats as we wished, the unfortunate amalgamationist was inevitably consigned to the tender mercies of the butcher.

Lest it may be thought that what I have considered as spots upon the sun, are only specks on my glasses, I will present the coroborating evidence of several English observers. Dr. Harvey, physician to the Aberdeen Royal Institute, says; "A young chestnut mare, seven eighths Arabian, belonging to the Earl of Morton, was covered in 1815, by a quagga, which is a species of wild ass, from Africa, and marked somewhat after the manner of a zebra. The mare was covered but once by the quagga, and after a pregnancy of eleven months and four days, gave birth to a hybrid which had distinct marks of the quagga in the shape of its head, black bars on the legs, shoulders, &c. In 1817, '18 and '21, the same mare, (which had in the mean time passed into the possession of Sir Gore Ouseley,) was covered by a very fine black Arabian horse, and produced, successively three foals that bore unequivocal marks of the quagga." Besides the instance already quoted, there is another similar case recorded: "A mare, belonging also to Sir Gore Ouseley, was covered by a zebra, and gave birth to a striped hybrid. The year following, she was covered by a thorough-bred horse, and the next succeeding year by another horse. Both the foals thus produced were striped; that is, partook of the characteristics of the zebra.

In both these instances, the mare had produced offspring from males of a different species from themselves. Walker, Baker, and Haller state that they have made similar observations to my own in regard to the ass and mare.

Mr. Mc Gillivray gives two instances of similar results where mares had only been covered by males of their own species, although of a different breed. In the royal stud, at Hampton

Court, several mares had bred from the horse Colonel, and the next year, although the foals had been got by the horse Actæon, in several of them there was observed unequivocal marks of the horse Colonel, which had been with the mares the previous year.

The Earl of Suffield had a colt got by the horse Laurel, that so closely resembled another horse Camel, that among the dealers it was boldly asserted that the colt must have been obtained from Camel until it was ascertained that the dam of the colt had previously borne a colt from Camel.

Singular facts are frequently observed among breeders of cattle; so many that Mr. Mc Gillivray, after narrating many says: "Among cattle and horses, they are of every-day occurrence."

The Rev. Charles M'Combie, of Aberdeenshire, tells of a neighbor of his who had been twice married, and had issue by both husbands, five by the first and three by the second. Of the last three, one, a girl, bears great resemblance to the first husband, who differed very much in features, complexion, and general appearance from the second. Professor Simpson, of Edinburg, tells of a Scottish woman who had borne a mulatto child from a negro man, and afterward a girl, whose father was white, had many of the characteristics of the negro race.

Physiologists, while they have admitted the phenomena, have been divided in their modes of explaining the laws that govern them, some supposing that an impression was made upon the imagination of the mother, producing a permanent result, while others deny the possibility of such a cause. The more probable reason to me is this: The offspring and the mother are so intimately connected by the funis, (navel string,) that the same blood circulates through the veins of each, and thus the progeny of the first impregnations produces a change in the whole organism of the mother, assimilating it in a degree to the male parent. If this be the true explanation, thus do husband and wife become, literally, "bone of one bone and flesh of one flesh," and in this manner, we can account for the failure of many persons in their endeavor to obtain animals of a perfectly pure breed. Let them look to it, that the female has not had her blood tainted by breeding with animals of a different class, previous to her being coupled with those whose peculiar characteristics they wish to perpetuate. C. H. CLEAVELAND.

Waterbury, Vt., March 12th, 1851.

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For more extended and curious information on the subject of cross breeding, we would refer such of our readers as desire it, to a work recently written by Dr. Alexander Harvey, of the Aberdeen University, published by W. Blackwood & Sons, of Edinburg.

GOOD AND BAD EFFECTS OF SALT ON ANIMALS

In several communications in the Agriculturist within the last few months, I observe there is a disposition to renounce the use of common salt as a condiment in the food or medicine of man and animals, and that it is no more necessary for cattle and sheep than it is for buffaloes, wild deer, and goats—an opinion at variance with numerous medical facts, and the experience of the whole civilised world from the earliest times. It is true, a few instances are cited in support of such a theory, as the semi-barbarous Aztecs of Mexico, the hunters of the Rocky Mountains, the wandering cattle of the prairies, and the wild beasts of the forest and of the plain. But when it is considered that these men and animals are inured to hardihood by fatigue or long exposure to the open air, confined to simple food, and possibly with means at hand to substitute something in the place of salt, such arguments appear to be futile, and would seem to be calculated to do more harm than good. On the contrary, when we contrast the lives and habits of civilised man, and of our domestic animals, confined as they are, a large portion of the year, in hot rooms or close stables, subsisting on a great variety of artificial food, which give rise to a corresponding derangement of their systems as well as to numerous diseases, medical and every-day experience show that salt is useful and even necessary to counteract the evils domestic or artificial life has brought upon them. Chemistry reveals to us the fact that small portions of common salt, applied to all kinds of animal or vegetable matter, hastens their decomposition, and hence, the utility of using this condiment in decomposing or digesting our food.

Salt, however, may be injudiciously administered in many cases, as will appear from the following remarks by Professor Robinson, in the Journal of the Royal Agricultural Society of England, vol. vii., part I., p. 190:—"I have for many years been perfectly convinced that salt allowed in quantity is highly prejudicial to all breeding animals, as it has a direct influence in greatly diminishing the necessary supply of milk for the immediate sustenance of the young animal; hence, salt is the best medicine to 'dry' a cow of her milk, and ewes would also be ben-

efitted by free access to this substance for one week when their lambs are taken from them. I am also convinced that salt has the effect of diminishing the secretion of the liver, and that it is from this cause that the good effects of salt are so obvious in the feeding of animals. It is well known that incipient disease of the liver, is favorable to the production of fat. When lambing ewes are allowed a large quantity of turnips, with a small amount of other food through the winter, abortion is a frequent occurrence; their supply of milk is very deficient, and their lambs are dropped of various sizes and are far from healthy. If the ewes are allowed free access to salt, the lambs are still more unhealthy, and many die of indigestion and disease of the liver. The mortality of the lambs, in these cases, may, I think, be fairly attributed to the amount of salt taken by the dam; for, admitting that a small portion only is directly given them, the quantity positively taken in their food in turnips, is somewhat considerable. This is a point—the normal or natural quantity of salt contained in the different roots, &c., consumed by animals as food—which will throw much light upon this most important branch of agriculture.

"That the use of salt is highly beneficial to certain stock, and at certain times, there cannot be a doubt; but, from my own knowledge, it is no less equally true that the too free and indiscriminate use of it to all stock, and at all times, is highly prejudicial." MEDICUS.

THE TRAVELLER.—No. 5.

FROM Charleston to Savannah, some 160 miles, the passage is made by very comfortable steamers in about twelve hours. Savannah is one of the best-planned towns in the south. Its broad streets and shady squares are luxurious provisions for healthy enjoyment of city life. The position of the town is remarkable. It is upon a sandy bluff 40 feet high, and the only high point on the river in that vicinity. An immense tract of rice land is within sight; that upon the island directly in front of the city was bought up a few year ago by the corporation, to prevent the cultivation of rice so near the town on account of the supposed injury to the health of the citizens.

Savannah is a very wealthy and very enterprising place. The railroad to Macon, 190 miles, is one of the evidences of that fact; and although it passes through much comparatively poor land, its business adds greatly to the prosperity of the city. Mr. Cuyler, the president of the company, is entitled to be respectfully mentioned, not only for his politeness to me, but for his excellent management of the business of the whole concern. This is a much more pleasant route to reach Macon than the one by Augusta and Atlanta. The population of Savannah is now about 17,000. Three excellent daily papers are published with a liberal support, which indicates the elevation of the people—success to them.

The day I left Savannah, January 3d, was a beautiful sunny day, contrasting strongly with the appearance of the first freight train we met coming down, covered with snow. This railroad grade is worthy of note. It rises very regularly about two feet to the mile, for 70 miles, when it passes a slight elevation and descent to the Ogeechee River, 101 miles from Savannah, and 200 feet above. Between there and the Oronee there is a grade of 30 feet to the mile, which is the greatest on the road. The depôt at Macon is 340 feet above the level of that at Savannah. The elevation of land above tide water determines the character of climate as much as latitude. The first hills on the route up, are seen near Macon, which is surrounded with those of moderate elevation, dotted with beautiful residences, surrounded by lovely gardens and other evidences of luxury and comfort.

Macon is a great cotton depôt. Like nearly all Georgia towns, it is built upon very broad streets, which being sandy, are not muddy though unpaved. Much of the soil of the surrounding country has been wickedly destroyed by a system of cultivation prevalent all over the south, of plowing very shallow, up and down hill, which has had the effect to send the surface all down to the rivers to extend our territory a little further into the Atlantic Ocean. The waters of all the rivers of Georgia, once so pure and limpid, have never run clear since the country has been inhabited by the whites. Probably no soil in the world has ever produced more wealth in so short a time, nor been more rapidly wasted of its native fertility, than the central portion of this state. The cheapness of land and its great fertility has been its ruin.

On the night of January 7th, I left Macon in the mail stage, for Tallahassee, 220 miles; fare $22; time, 60 hours; roads to be imagined; taverns unimaginable; coaches, horses, and drivers to match; and taken all together, not to be matched anywhere else upon this earth! yet, this road passes through some of the richest counties of land in the state. Many of the

planters of Houston and Baker, make 1,000 to 1,200 pounds of seed cotton to the acre, or five to eight barrels of corn; cultivating about 20 acres to the hand, 15 in cotton, and five in corn, besides potatoes and oats, both of which grow remarkably well. Much of the land is a rich loam containing abundance of lime, and generally level.

It was my intention to stop at Albany a few days, and if any of my friends in that county regret that I did not, they may be assured it was not from any want of disposition; but because the "hotel" of that fine-growing town is such an abominable nuisance, that I did not feel as though I could endure it until I made the acquaintance of some kind friend, whom I doubt not would readily take pity upon a traveller unfortunately located in such an uncomfortable place, as soon as informed of his deplorable condition. Although much in need of rest, I felt compelled to proceed. One meal was all I could endure. Thus much by way of explanation. This part of the state is very new, having been mostly settled since the Creek war of 1836. Steamers run upon Flint River, in high water and carry out the cotton to Apalachicola. The greatest objection to the country is limestone water and muddy soil. There are yet vast tracts of land in forest in this part of the state, though much of it is of secondary quality.

As we approach Florida, the surface becomes undulating, and around Tallahassee, it is really hilly, and elevated several hundred feet above the level of the ocean. Much of the land in Middle Florida is of a dark-red color, composed of sand, clay, lime, and iron, and having an unctuous feel as though it contained fatty matter. It is the finest red land in America, and as well worthy the attention of imigrants as any region of country I know of, taking into account its fertility, cheapness, and warm climate; and for one so far south, undoubtedly very healthy. It is a soil easily washed away when only plowed about an inch and a half deep; but as it is in places 20 or 30 feet to the bottom, it will be more than the present generation of land destroyers can do to utterly ruin the whole country. Besides, by a good system of sidehill ditching, such as has been adopted by colonel Williams, with level cultivation, the fertility of the land may be maintained forever. Even deep plowing, that is, plowing with two light mules only, and subsoiling with a common bull-tongue plow, with one mule, as lately practised by Major Ward, so mellows the land and gives such an opportunity for the water to soak into it, that the washing is nearly all prevented. By a good system of cultivation, the land never can be worn out, and in time, would become one of the garden spots of the earth. It is anything but that now. The average quantity of land tilled to the hand, is twelve acres of cotton and eight acres of corn, besides oats, rye, and potatoes. The average yield is probably something over 600 pounds of seed cotton to the acre, or about six bales to the hand, as it does not turn out quite one third the weight in clean cotton. The average yield of corn is not over fifteen bushels, some say not over ten, to the acre. Corn is liable to a disease here, called "Frenching," that is new to me. It is only affected in small sections of a field; when about half grown, it withers and turns white, and never comes to maturity. The cause is unknown. Most planters make sufficient corn for food and feed, but do not make pork for the people. That comes from New York or New Orleans. Cattle and sheep are plenty, and just as mean as could be desired. They are worthless to a cotton planter, causing him to build a great deal of fence and affording no profit. There is a great deal of land besides the red land, not generally esteemed; yet, some of it that seems to be composed of sand produces wonderfully. The natural growth of timber on the sandy land is mostly long-leaved pine. On the red lands and creek bottoms, white oak, red oak, live oak, water oak, magnolia, beech, maple, ash, sassafras, dogwood, cherry, sweet gum, long and short-leaved pine, and some other kinds, perhaps. The country, like all other limestone countries, is not well watered. There are but few mill sites, and stock water in many places is scarce. One singular feature of the country is, full-sized rivers rise suddenly out of some cavern of the earth, and lakes and streams in other places send their waters down into the earth. Wells are frequently hard to obtain, and yet people will not learn that cisterns are better and cheaper, particularly in the red land, which is of such a firm nature that no brick work is needed; the hydraulic cement may be plastered right upon the earth.

Middle Florida, particularly in the vicinity of Tallahassee, was settled by a high-bred class of inhabitants, which makes society there very agreeable, and, notwithstanding they are real land destroyers, they are money makers. Nearly all the land is plowed with very small one-horse plows, either home-made or from the manufactory of A. B. Allen & Co., New York.

The majority of mules are the very meanest to be found in the United States. The advantages offered to any farmer desirous of locating a cotton plantation are probably greater than in any other state east of the Mississippi. Improved lands can be bought from $5 to $10 an acre—less than the present value of a single crop. In fact, the greatest misfortune to the country is, that lands are too cheap—men will waste them when of so little value. This is the true cause of so much waste and worn-out land throughout all the cotton states. It is more profitable to destroy than to save. I have something further to say of Florida in my next.

SOLON ROBINSON.

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We wish to add a word to the above on the subject of plows and plowing. It is not our fault that small, cheap plows are taken in preference to those of a larger size. We have shown the advantages to the south of deep plowing over and over again in the Agriculturist; and every summer, when the planters do us the favor of making their annual calls at our establishment, we verbally bring the subject up before them. Frank and intelligent gentlemen as they are, they at once acknowledge the truth of what we say; but then, they add, "it is not quite time yet for us to change our system; deep plowing, we reckon, will come by and by;" and down goes the order again for small plows, and off their rich soil continues to travel into deep gullies and rivers! Time, however, will ultimately work a change for the better, yet not much of one, we fear, in our generation. Our successors will probably reap the harvest from the seed we are now sowing.

FATTENING CATTLE.

I AM now experimenting with a pair of large oxen in the way of fattening in the stable. It has been about two months since they were tied in their stalls, and have not been out since. Water is always before them, and they are eating about 18 quarts, each, of corn meal and oats ground together. They are growing finely. But some of my old experienced neighbors say they will sicken; some say they will not fatten much, while others add that they look well, but would do better if I would let them out. I ask, have you ever tried the experiment? No. Why do you think so then? "O, 'taint natur." Well, "natur don't make coal stoves, nor build warm houses for you, nor clothe you with wool and fur and leather; yet, you look about as well as you would if you took your winter meals in the door yard, and slept on a snow drift. "Well, if the oxen was mine I'd let 'em out, they would be more healthy." "Yes, but a perfectly healthy animal is never excessively fat as I wish these to be." "Well, do as you like." I have not found a man who approves of the plan nor has tried the experiment. W. W. B.

Fishkill, Jan. 29th, 1851.

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Notwithstanding the amusing colloquy given above, between our correspondent and his neighbors, and the inference he seems disposed to draw in favor of his own practice, we must confess, that, according to the best experience they are right; and it is better that all animals should have moderate exercise when fattening. Perhaps they may not make so many pounds of flesh per day, as if confined, but this flesh is enough better to pay for it. Take the flesh of the deer, the elk, or other wild animals; of the turkey, goose, duck, pheasant, grouse, partridge, &c., and how much superior it is when killed in good condition, and at the proper season, to that of the best fed domestic animals. This is unquestionably owing in a great measure to the exercise they get, and the pure air they breathe. However clean stables and yards may be kept, still the air in and around them is not so pure as in the forest or green field.

Box or stall feeding, as it is called in England, has recently been much practised there; still the judgement of the best graziers and feeders is decidedly against the system. To be sure, they get more weight of fat and flesh, and make more manure for the food consumed; but they say, after a given time, the animals do not thrive so well, that they often get sick, and that the butchers will not give so much for the meat; it is flabby and tasteless, compared with the beef of those animals which have plenty of good air, exercise, and fresh water.

FOWL BREEDING.

I AM not so absorbed in fowl breeding as to have it the one idea of my life, but having taken the "fever" the natural way, in my childhood, I have cherished it for twenty years, with an occasional "cross;" so that at the present time, I scarcely fail to read all communications on this subject which I find in the different agricultural publications that come into my hands.

I have just finished reading the one over the signature of T. B. Miner, in the March number of the Agriculturist, in which he seems very positive that the average number of eggs obtained by one hen cannot be over 80 per annum,

and as a perfect settler in the matter, concludes that it would be infringing upon the laws of the Creator. Will the gentlemen in his No. 5 please to tell us why one class of hens has to lay 100 eggs per annum, while another only lays 60, to produce the maximum average number? Suppose one should keep only the class of fowls that produce 100 eggs per annum, would it interfere with the arrangements of the Creator, in this class? Now the object I had in view, in taking my pen, was not that of a reviewer, but to say that my experience is more favorable as to numbers than Mr. Miner's. I kept 16 hens and four cocks, last year, only four of which showed any desire to sit, through the entire season. Of the twelve that laid regularly, the average number of eggs was about as follows, some of them of course better than others:—

February,	12
March,	22
April,	23
May,	24
June,	20
	101

Thus the average number of eggs in five months, was 101; some of the hens, however, extended to from five to eight eggs in July. After moulting, several of them laid from 10 to 20 eggs each, before winter. I never attempt to force them in cold weather, but give them a good warm yard, partly under cover to bask in, and a warm light building for a roost. I feed with a good variety of green food, such as apples, turnips, cabbages, and the like, with meat and waste bread from the kitchen; with an occasional hot pudding for their special benefit, with corn and oats, and fresh water always at hand. They range over six or eight acres, if they choose, in good weather. I have several times had pullets begin to lay as early as November, and lay about every other day through the winter, with the exception of the very coldest weather.

Now for the breed—simply the Poland and the common dunghill, that have been kept together for six or eight years, with an occasional introduction of a fine new cock from either variety; so that they are very thoroughly crossed. The pullets will weigh from four to six pounds, alive; not large of course, as the black Polands are light. I have hens three years old that have never shown any disposition to sit. Will Mr. Miner tell what variety he "cultivates?"

West Meriden, Conn., March, 1851. R. LINSLEY.

IMPROVED BREEDS OF CATTLE.

You say we have frequent discussions on this subject, and nowhere in greater abundance than in New England; and you might have confined your remarks to my own state, Massachusetts (see page 44, this volume). And why should we not contend for the excellent qualities of the Oaks cow and the Nourse cow, as well as that of many others? Perhaps some light on this subject may do you a little good. I once asked some of my neighbors to join in making up a club to take your paper, and to a man, they simultaneously replied, "What can a man in the city of New York know about farming, and especially about farming in New England? Besides, they have so much to say about shorthorns; we have seen some of this breed of cattle on their way to the Brighton Market, and they were as big as elephants, and so fat that they could scarcely stand up in the cars; yes, and some of them were as white as the milk they gave. Bah! Who would eat such beef? We would as soon eat a roasted coon." I, however, continued my subscription to your paper, and have done so from the commencement of it.

What I am about to tell you now, I ought to have told you a long time ago, and thus you would have saved all the ink you have shed from time to time in scolding New England for not improving our breeds of cattle. The way we used to do sixty years ago, (for that was the time I first began to act for myself,) out of half a dozen cows, for this was about an average number kept by forehanded farmers, there would be one, perhaps, superior; that is, would give, soon after calving, in good pasture, 12 or 15 quarts of milk a day. The heifer calves of this cow would be kept to give one to Dolly, another to Molly, a third to Huldah, a fourth to Sally, and so on, to each of the girls, one at their marriage; for no young man was afraid to marry in those days on account of not being able to support a family. These were bred on again, and their progeny handed down to the next generation; and were held on to by the good wife with as much pertinacity as Naboth held on upon his vineyard, for they never would consent to sell them. When twelve years old, I led one of these favorite two-year-old heifers 33 miles to the residence of a newly-married sister, taking two days to conduct her through, and one day to return. What say you to this? In this way, it would be very strange if some what we call good milkers should not be found. But the science of breeding, then, as now, was not cared for nor understood; the best calves

were generally allowed to be selected by the butcher and killed; the next best, raised for steers or cows; and if there was a *runt*, unfit for an ox, he might be kept for the stock bull. No one ever thought of raising a bull because he came from milking stock.

My old uncle kept a stock of 100 head, more or less, of horned cattle, and his ambition was to breed working oxen, and train them for use in this branch of husbandry. He became somewhat noted, because he would occasionally import a bull from England. If he made a cross of a Devon bull upon a Hereford cow, he was made the butt of the two towns where his property lay, his house standing in one, and his barns in the other; they taxed his person in each, the assessors where his barns stood, contending that he lived more in his barns than in his house.

I will only add in conclusion, that what New England was 70 years ago, on the subject of stock breeding, we are still the same, with a very few exceptions. OCTOGENARO.

SHORTHORN CATTLE—THE IMPORTED BULL EXETER.

THERE has been no time for many years that our farmers and cattle breeders have appeared so aliv to their real interests in producing good stock as at present; and from appearances, well bred cattle are likely to pay fair prices to those who have them to spare.

We have had some solicitude to learn how the different animals composing the fine herd of shorthorns which we sold for Mr. Sheafe, last August, have progressed with their new owners; in most instances, we learn they have done remarkably well. Mr. Vail, the well-known shorthorn breeder, of Troy, purchased five cows and heifers, and among them were some of the highest priced animals. Two of these he sold at a considerable advance soon after he purchased them; the two others, one of which has now a remarkably fine bull calf by Exeter, are reserved for his great sale in June.

That extraordinary fine, *imported* bull, of the Princess tribe, Exeter, was purchased by our brother, Lewis F. Allen, and went to Black Rock. Of him he recently writes, "You inquire about Exeter. I am gratified to say, that he fully equals my anticipations; and they, after knowing the high quality of the stock from which he is descended, and the wide reputation of his breeder in England—which were fully warranted by the appearance of the bull himself at Mr. Sheafe's farm—were not low. Exeter is truly a very superior bull. His points are most of them, perfect, his handling quality cannot be excelled, and I have rarely seen an animal his equal in that particular. He keeps, too, as easy as a Southdown sheep, now at two and a half years old, and in rapid growth, actually requiring less food than some of my grade yearlings. You know that I obtained Exeter not only to improve the quality of my general herd, but principally to cross upon the heifers, I have got by Mr. Vail's bulls, two of which, (one of them, his imported Wellington,) I have had on my farm for three years; and from them I got much capital stock. I have now several cows in calf to Exeter, and intend, the coming season, to put every shorthorn and grade cow on the farm in calf to him, as he cannot but improve everything he touches. I now have about fifty cows, all thorough breds and high grades, and hardly an indifferent milker among them. Rely upon it, if you want *deep* and *sure* milkers, you must adopt the shorthorns."

By the above letter, we also learn that Mr. Allen will probably offer a large portion of his valuable herd of cattle for sale early next fall, having now upwards of one hundred head. If so, we shall try to persuade him to bring them to the neighborhood of New York for that purpose; as nowhere are good blood, and milking stock more needed than here, and our farmers and gentlemen of the country are better able to appreciate and purchase them than formerly.

HOW TO MAKE A HAPPY HOME.—Always be cheerful. A dwelling furnished with cheerfulness and cheap furniture will always afford more happiness to the inmates, than cushioned sofas and carpeted floors, elegant mirrors and mahogany sideboards, with sour looks and ill temper. Though the elegancies of a well-furnished house are not to be despised, they are not alone sufficient to produce happiness. Farmers, teach your children cheerfulness, and you will make them happy. Do not wholly restrain the girls from frolicsome mirth, or such enjoyments of long evenings as will add roses to their cheeks and vigor to their constitutions. Nature will then tempt them, as spring opens, to cultivate and beautify the garden, and make home happy.

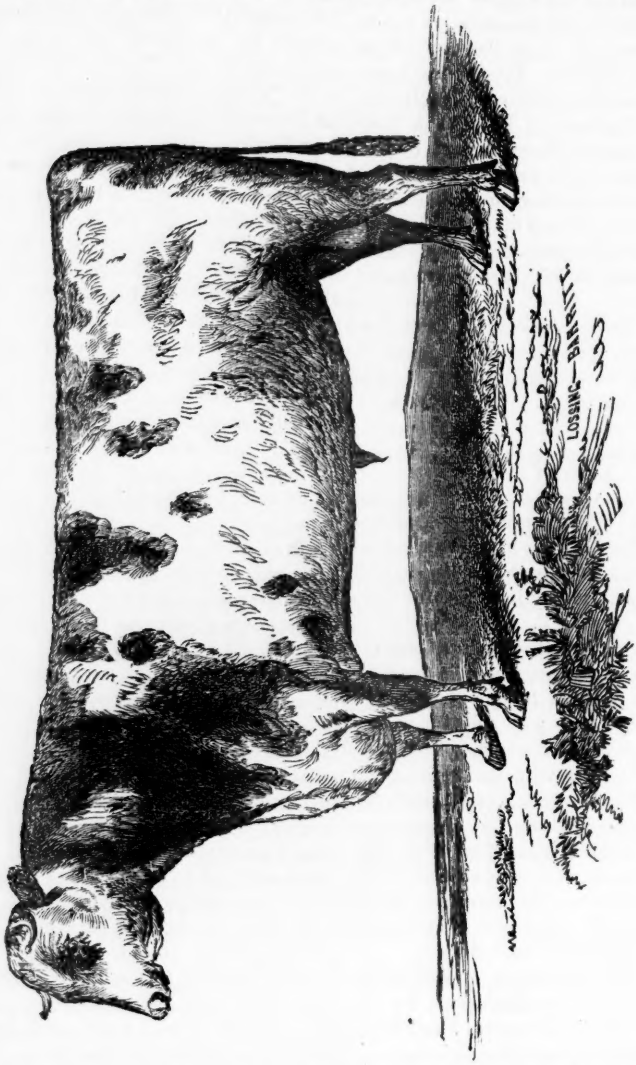
WHAT SEED WILL YOU PLANT?—Acorns will produce oaks, and dollars produce fortunes; but if you wish to enjoy the fruits of virtue and happiness, you must plant the seeds of love, and cultivate goodness to all men.

SHORTHORN BULL SPLENDOR.

THE shorthorn bull, Splendor, (calved Sept. 1837, bred by Mr. Thos. Weddle, dam Beauty, sire Charles C. H. B. (1,816), both imported by Mr. Weddle,) is an animal of great constitution, and many good points. The cut below is a fair outline, but of course cannot show his great width of hind quarter. His coat and handling is first rate, having that soft, velvety feel, which is so desirable in all shorthorns. He is of a remarkably mild and gentle temper, yet, still retains all the fire and vigor of youth, and weighs, in very moderate condition, 2,200 pounds.

Splendor has, without doubt, served more common cows than any other bull in the state. He invariably stamps upon his get his many good qualities (often superior in general appearance). His steers are good workers, and his cows choice milkers, both in quantity and quality. He has been kept most of his life in Livingston County, N. Y. The reader is respectfully referred to any drover or stock raiser from that section of the state for further particulars in regard to his qualities, and the superiority of his progeny. JOHN R. PAGE.

Sennett, Cayuga Co., N. Y.



SHORTHORN BULL SPLENDOR.—FIG. 25.

PLOWS AND PLOWING.

WITHIN the past ten years more has been done in the United States for the improvement of plows and plowing, than had been accomplished since the settlement of the country. Up to the year 1850, there were probably at least, 200 different patterns of plows manufactured in this country, all of which have proved more or less useful for the particular purposes for which they were designed. A gradual change, however, has latterly been taking place in plowing among our most enlightened and enterprising farmers; they have found it highly advantageous to deepen gradually the tilth of their soil. For this purpose, they not only require the frequent use of the subsoil plow, but a surface-soil plow, also, which can turn up and thoroughly pulverise the earth deeper than any now in use. Two kinds of plows different from any yet manufactured, have been earnestly called for by the public for this purpose; one for turning a deep, flat furrow in a light soil, and another for turning a deep furrow in a stiff clay soil, at an angle of about 45°. To effect these purposes with any degree of perfection, the share, mould board, and wings of each required plow must differ materially from the other in width, rise, and turn. This great desideratum seems now to have been accomplished, as our readers will learn, by the following extracts which we make from an able article in the March number of that excellent periodical, the Albany Cultivator, written by Mr. F. Holbrook, an eminent practical and scientific farmer of Brattleborough, Vermont:—

"About a year ago, I called upon Messrs. Ruggles, Nourse, Mason & Co., and upon stating the difficulties I had experienced with my plows, they remarked that there was quite a growing demand for plows for deep work; and they at once evinced a most commendable readiness to undertake such a series of experiments, regardless of expense, as should enable them to supply, in the best manner, this demand of an advancing agriculture. They made a plow that gave me satisfaction, for it could turn a furrow a foot deep, and it did not choke under the beam. The making and trial of this plow suggested further improvements, and these in turn led to others. The various experimental trials may be summarily stated as follows:—

1. To make a plow to turn furrows ten to twelve inches deep, and turn them without choking under the beam.

FIG. 26.

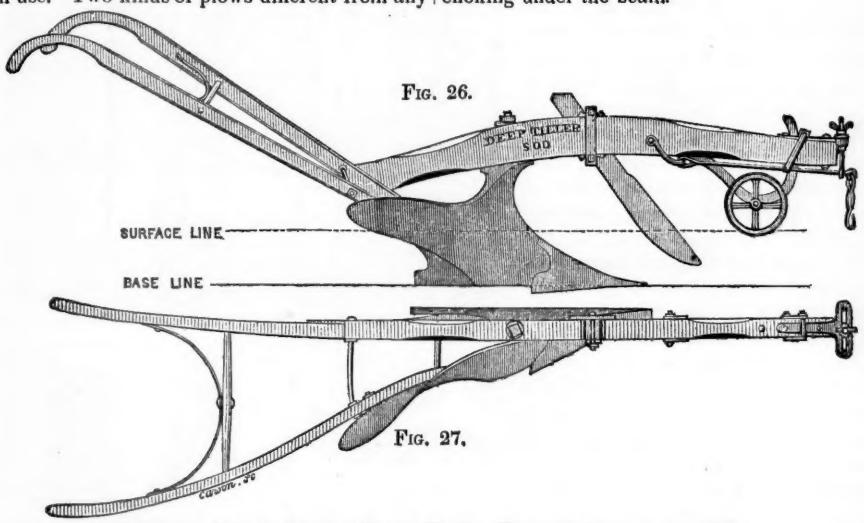


FIG. 27.

RUGGLES & CO.'S FURROW PLOW. No. 72—FURROWS 7 BY 11 AND 12 IN.

2. To make a plow to turn deep furrows, requiring the least practicable width in proportion to the depth of furrow.

3. To make a plow to turn deep narrow furrows, and to turn them on so easy a line of transit as to prevent breaks on the furrow slice.

5. To make a plow to turn deep, narrow furrows on the easiest practicable twist, and to lighten the draught of the plow whenever it could be done without detriment to the best work.

5. To make a series of sizes of plows for turning flat furrrows, seven, nine, and twelve inches deep, each plow proportionately combining the above specifications.

The experimental trials also led to the pro-

duction of two sizes of plows for adhesive soils, laying lapped furrows at an angle of 45°; and two sizes of plows for turning stubble furrows.

Fig. 26, represents a furrow-side elevation of plow No. 72, or smallest size of the new flat-furrow plows, and fig. 27, a horizontal plan of the same. In considering the remarks I offered upon No. 72 plow, it will be borne in mind that plow No. 73, for furrows nine inches deep, and plow No. 74, for furrows twelve inches deep, each possess the same general form and working properties of No. 72. They are each constructed upon the principles of an ingenious scale, the lines of which, as applied to the mould boards of three plows, and relatively the same.

Fig. 26, represents the handles as long and raking, which gives the plowman a powerful leverage, and an easy and accurate control of the implement; the beam is high, and arches well over the coulter, to permit loose grass or other loose matters to pass off, and the plow to swim clear; the coulter is consequently long, and is made wholly of steel, to give it the requisite stiffness; the wheel or roller is nine inches in diameter, to prevent laboring and creaking on the axis, and it is set under the beam, experiments the past summer indicating that a wheel on the side of the beam gives the plow an unsteady movement; a wrench accompanies the plow, adapted to the adjustment of the coulter, roller, clevis, &c.; the draft rod is short, connecting with the beam forward of the coulter, in order to preserve the space under the beam in that region entire; the quadrant, or clevis, attatched to the end of the beam, through the bolt of which the draft rod passes, is adapted to give the plow any desired *landing* or *earthing*. The mould board is long, the line of transit over it for the furrow slice is easy, giving the slice a long, easy, and equal curvature throughout.

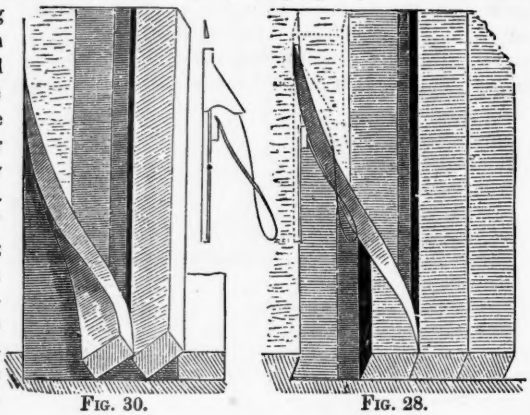


FIG. 30. FIG. 28.

FIG. 29.

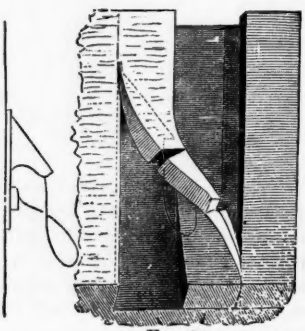


FIG. 31.

Fig. 27, shows the inclination of the land side, and the coulter has a corresponding inclination. Fig. 27 also shows the position of the beam over the body of the plow. The share and lower parts of the mould board are narrow, and the mould board is high, to adapt the plow to deep, narrow work. The share is long, with a raking cut, which gives it an easy entrance into the ground.

Fig. 28, represents pretty well the movement of a furrow slice seven inches deep and eleven inches wide, over the mould board of this plow, and its final position after leaving the plow. The easy transit and the equal flexure of the slice, are noticeable. By means of the inclined land side and coulter, the slice is cut off the land upon a bevel, which very much facilitates its dropping in snugly beside the previously-turned slice. It will be observed that the width of cut made by the share is such as to leave a good hinge uncut, upon which the furrow holds its proper position at the bottom, while the top is describing a quarter of a circle to reach the perpendicular position, at which position the plow has ripped off the hinge. If the slice were cut entirely off by the share, it would be apt to push off at the bottom so far as to fail of being turned over to its proper position; in other words, a wider furrow would need be taken to turn well.

Fig. 29 shows that, theoretically, a furrow cut straight from the land will shut in beside the previously-turned furrow. The furrow slice, *c*, *d*, *e*, *f*, is cut straight down at *a*, *b*, and rising on the corner *c*, as a pivot, it describes a quarter circle, *b*, *d*, and then changing to *f*, as a pivot, it describes another quarter circle, *e*, *g*, and shuts

in snugly beside the previous furrow, *g*, *h*, *i*, *k*. But in practice, it is difficult to make the furrows do so; they are very apt to ride on the corners, as represented by Fig. 30. With an inclined land side, and a bevel cut from the land, this practical difficulty is avoided.

Fig. 32.

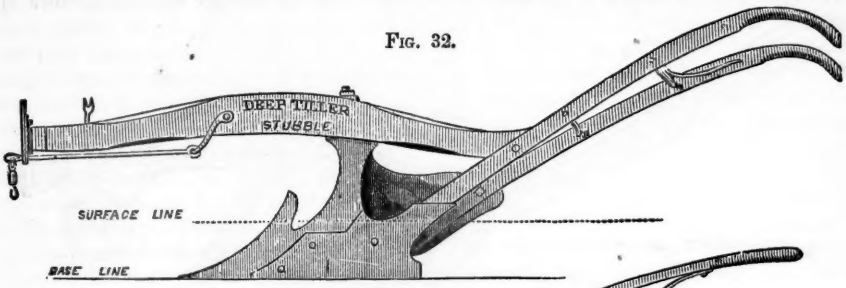
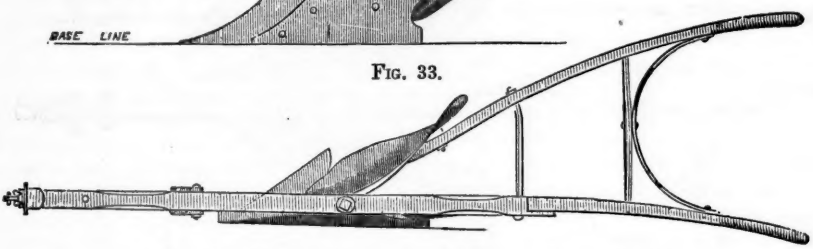


Fig. 33.



Ruggles, Nourse, Mason & Co.'s Stubble Plow, No. 37.

Fig. 31 represents the movement of the furrow slice over an imperfect mould board. It will be observed that the plow is too wide on the bottom to take a narrow furrow, and if the attempt is made to turn a eleven-inch furrow,

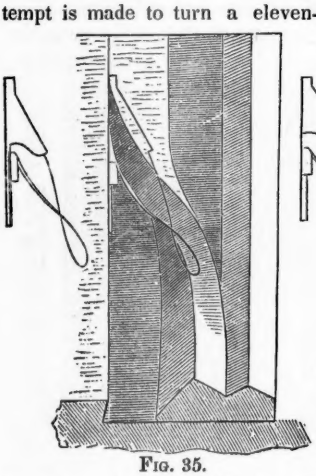


Fig. 35.

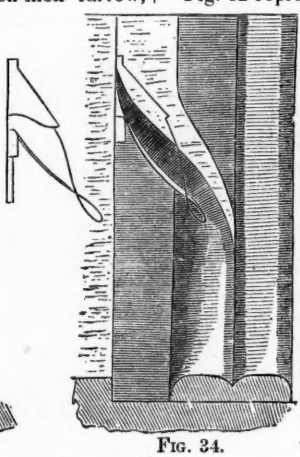


Fig. 34.

there is no hinge left for it to turn on. The mould board is so short, and wings over so excessively, that the furrow slice is cramped into an unnatural movement, and is badly broken. The plow is also too low every way for a seven-inch furrow, and is completely buried. We find in practice that such plows can only be kept erect in furrows seven inches deep, by constant, laborious exertion on the part of the plowman; that they have a constant tendency to ride the furrow at the point where the mould board wings over so much; that the heel of the land side sole is lifted an inch or two from its proper level position in the furrow channel, and that the plow inclines very much to run on the point of the share.

Fig. 32 represents a land side elevation, and fig. 33, a plan of stuble plow, No. 37. There is a larger size, No. 38, adapted to deeper work than the plow here represented. The surface line, fig. 32, shows the position of this plow in a seven-inch furrow. The handles are of good length, though shorter than those of the No. 72 plow; the beam is high and arching; it is mounted with a short draft rod and a dial clevis, adapted to give the plow a wide range, both *landing* and *earthing*. The perpendicular height from the base line to the under side of the beam, immediately forward of the standard, is 17 inches, which enables the plow to make its way among rank stubble, corn stalks, &c., without choking. The fin cutter is an excellent point in this plow. By making an easy, clean cut from the land, the furrow is not encumbered with clods of earth rolling down from the land side, as they are apt to do where the furrow is

torn from the land by the breast of the plow. The fin cutter also lightens the draught of the plow. Fig. 33 shows the form of the mould board, the position of the beam over it, and the position of the land side.

Fig. 34 is a pretty good representation of the work of this plow in stubble or old land. It is noticeable that the furrows are nicely laid for the reception of the seed grain; that the furrow slice is all taken up and forced over to an inverted position and there it stays; and that the furrow channel is entirely cleaned out for the reception of the next furrow. It is impossible, however, to represent these practical matters exactly on paper; we can only represent them generally.

Fig. 35 represents the work of an approved sward plow, in stubble furrows. It is not broad and full enough at the heel to clean out the furrow channel. Then, too, after the furrow slice has reached the perpendicular position, there is not force enough in the mould board to compel the slice to grow over to its proper place, and as there is not cohesion enough in the slice to hold it together, a portion rolls one way, and a portion the other. The centre of the furrow on top is therefore the highest, the furrow channel is half filled up, and the work generally will not compare with that done by the stubble plow No. 37. The stubble plow No. 37. would not make nice work in sward furrows; it would break them too much.

Fig. 36 represents an elevation, and fig. 37 a plan of the new sward plow for moist adhesive soils. There is another size, for furrows nine inches deep, of the same general form and proportions with the one here represented. The handles, fig. 36, are long and raking, the beam is high, giving a space of 17 inches forward of the coulter, and the plow is mounted with a Scotch clevis, the adjustment for *earthing* being represented in fig. 36, and that of *landing* in fig. 37. The general outline of the mould board is very well represented in fig. 37. The share is

Fig. 36.

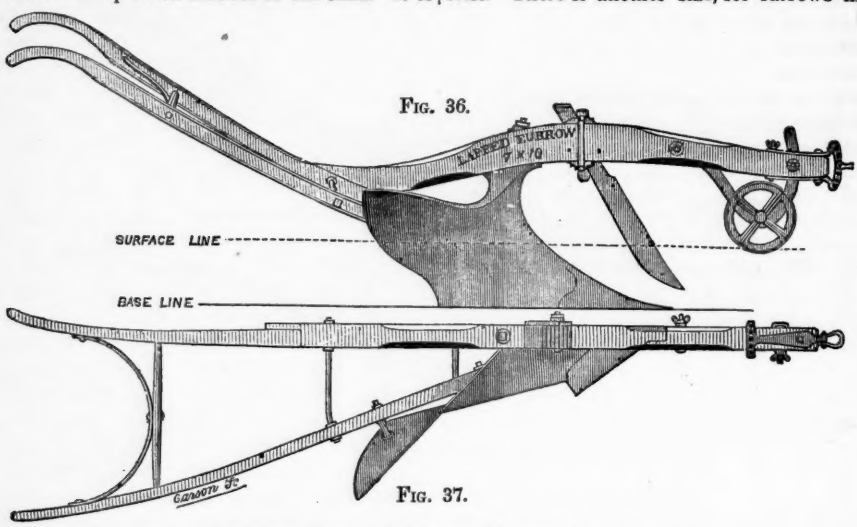


Fig. 37.

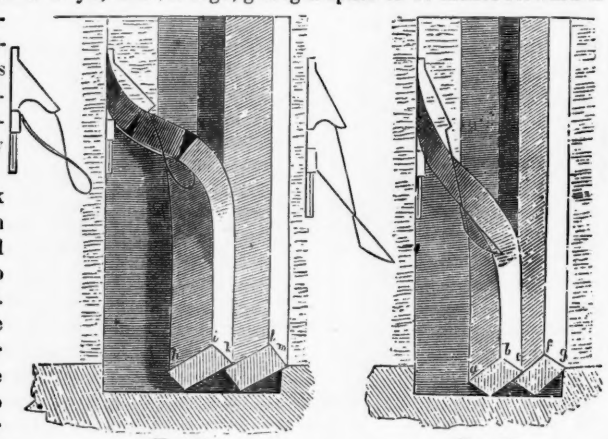


Fig. 39. Fig. 38.

Plow for Lapped Furrows—Furrows 7 by 11.

narrow, the wedge power great, and the back part of the mould board is adapted to place the furrow slice exactly at an angle of 45° before leaving it. The land side is perpendicular, and the coulter stands in a range with it.

In considering the form and proportions of a plow best adapted to the working of stiff heavy soils, Messrs. R., N., M. & Co. have thought that plow the best that will cut a perfectly rectangular furrow, whose depth is to its width as two is to three, and lay it at an angle of 45°. The plows for stiff lands, that they now offer the public, are adapted to work as above specified. They combine the best working properties of the celebrated Scotch plow invented by Small, with the lightness and cheapness of the American plow. The lines of the scale from which these mould boards are fashioned, give them a slight convexity of surface, which is considered an advantage in the working of tenacious, unyielding soils; but the lines may be varied to straight lines for medium soils, or to concave lines for light, sandy soils. The line of transit for the upper edge of the furrow slice, is adapted to the delivery of the slice with an unbroken crest. The mould board presents a uniform resistance to the furrow slice, and will brighten uniformly over the entire surface, however tenacious the soil may be.

Fig. 38 represents the action of this plow in furrows seven inches deep by ten inches wide. The plow enters the ground very easily, a good hinge is preserved upon which to raise the furrow slice to its perpendicular position, the back part of the mould board lays the slice at an angle of 45° before leaving it, and the two exposed faces of the slice are of equal breadth, namely, seven inches.

Fig. 39 represents the action of a plow unadapted to laying proper lapped furrows. The plow is so wide upon the bottom as to require a width of furrow slice of at least twelve inches, and yet it cannot go more than seven inches deep—indeed, it can hardly do that, without crowding over to the left, or land badly, and it cramps and breaks the slice very much. But the slices are of unequal proportions. The width is too much for the depth, and, consequently, so flat a surface is formed, that if the furrows are to lie exposed for some time to the weather, and if the soil be a stiff adhesive clay, it will run together and bake so much as to render the harrow quite inoperative, and but a shallow seed bed will be raised. The spaces underneath the furrows are wide and low, and they will be apt to fill with soil, which will prevent a proper circulation of air, and a free passage of superfluous moisture, and the surface will be apt to be wet and heavy.

The triangles, *abc*, *efg*, fig. 38, are of equal sides, and the angles, *b*, *f*, are angles of 45°. The triangles, *hik*, *klm*, fig. 39, are of unequal sides, and the angles, *i*, *k*, are angles of only 36°. If we suppose a series of sections of these 7 by 10 and 7 by 12 furrow slices, each extended to ten rods, for instance, in width, and that they are one inch thick, we shall find upon a calculation of the aggregate exposed surface of each, that the furrow sections, 7 by 10, of equal faces, have exposed 2,791 inches of surface to the air, while the sections 7 by 12 of unequal faces, have exposed but 2,722 inches; and any one who chooses to extend the calculation and comparison to an acre of ground, will find the balance to be very much in favor of the slices represented in fig. 38. A like comparison of rectangular furrow slices, whose depth is to their width as two is to three, and which are laid at an inclination of 45°, with furrow slices of any other form, or proportions, that are practicable to be laid, will be found to result in favor of those first named; indeed, it can be shown that no furrow slices but rectangular ones, whose depth is equal to two thirds their width, can be laid at an inclination of 45°; and since it can be proved that rectangular furrow slices, whose depth is equal to two thirds their width, and which are laid at 45°, present the greatest surface to the ameliorating action of the atmosphere; and since it can also be proved that such furrow slices present in their projecting angles the greatest cubical contents of soil for the harrow to operate on, in raising a fine, deep tilth, or seed bed, and that such furrow slices have the best spaces for the circulation of air, and the passage of water, underneath them, we may conclude that all plows, for laying lapped furrows in heavy adhesive soils, are absolutely faulty in just so far as they fail to cut rectangular furrows, whose depth is to their width as two is to three, and to lay them at an inclination of 45°. I would give unerring mathematical demonstration of these points, were it not that I should be extending an article already too long."

F. Holbrook.

Brattleborough, Jan. 10th, 1851.

Qualities of American Produce.—South Carolina and Georgia produce the best cotton, (Sea-Island,) and the best rice in the world.

There are no other apples equal to those of America.

REVIEW OF THE MARCH NUMBER OF THE AGRICULTURIST.

THE first article in this number is a continuation of foreign notes upon

American Agriculture.—Crude and somewhat untrue as these notes are, I hope they will do some good. Farmers in this country need a little stirring up so as to make them sensible of their faults. Men cannot be expected to cure themselves of habits of slovenly farming, before they are made sensible that their system needs improvement.

Poultry Raising.—This writer, and some of your other correspondents are determined to make your readers understand that there is some humbug in this branch of the business, at any rate. I think Mr. Miner is decidedly in error in regard to hens ceasing from laying in warm climates during the winter months. At least, Old Jo says he is, and negro authority about poultry will go further with me than any amount of white folks' say-so. There is no mistake though about the truth of the last paragraph of Mr. Miner's article.

What Can I Do?—A very pointed question, admirably answered. I recommend that every town in the whole farming country of America, should do just as the people of Norfolk county have done, if they desire to succeed in an agricultural society. That is, get men, women, and children all deeply interested in the subject. That little article contains facts worth a fortune. Let every reader put the question to himself, and then read it over again and find an answer to the inquiry of what he or she can do, and they will soon see how much good one individual can do to a large community.

Imports and Exports.—Expenditures exceeding income, that is all. And the end is not yet.

Cranberries.—After reading this statement about the profitable appropriation of worthless swamps, can any one tell me why it is that more of them are not put under the same system of cultivation?

Village Lectures.—These should never be passed lightly over. Encourage your children to read them. They contain a deal of valuable information.

Embellishments of Railroad Embankments is a subject worthy the notice of everybody. At present, they are the most unsightly objects in this country. Let the press begin to press the matter into the public noddle.

A Jaunt in Ohio.—"I was disappointed in my first impression of Cincinnati," says the writer. So was I more than a quarter of a century ago, when I saw what a quantity of excellent land lay between the town and those hills, upon which tract then lying waste, the city has spread its giant limbs, and is already climbing the steep hills beyond. The growth of American cities comes nearer realising some of the creations of fancy in Arabian tales, than they do the realisations of sober calculation. The fact is, all calculation is at fault. Where the most calculating people on earth have calculated to make a city grow, the forest is still growing, while other places, upon which no calculation was made, have disappointed the shrewdest calculators.

Georgia Burr Millstones.—How little is known of the riches that lie buried in the soil of this country. I hope to see these articles generally introduced, if they are what the writer assures us of their character, because they are American, and will tend to promote home industry.

Mulching Orchards.—I advise everybody, who ownes a fruit tree, or ever expects to be worth land enough to plant one upon, carefully to read this article. They will learn a secret about the cultivation of trees worth a hundred times more than the cost of this paper for a year. No doubt by mulching, fruit trees could be grown at the south in situations where they now fail entirely. It would be worth while to try the effect of the system upon orange trees. Who knows but the blight and death of this valuable tree might not be prevented by covering the whole ground with pine straw or other substances that would make a covering impervious to the sun's rays?

Orcharding.—Directions for raising fruit trees from cuttings, or seeds either, and on budding or grafting, with about one half the American farmers, is labor lost. However good the directions are, they will not be followed. It would have been one of the most interesting pieces of information obtainable by the census takers, to know what portion of the cultivators of the soil, cultivate fruit enough for their own use. I answer not one half, and half of that half grow only the kind known as *five to the pint.* Talk to such folks about planting a nursery! Why, they would never nurse a plant if they had one, except nursing their wrath against some neighbor, who objected to raising fruit only to feed those who are too careless or indolent to raise their own. Talk to such folks about pruning their young trees. Pshaw! The only pruning they ever give them is to let in a few hungry cattle in the winter; for all they can get off the apple trees will save fodder. Talk to them

about pruning! Did not their fathers know how to prune? Can you learn them anything about the business to which they were raised? These same people will contend with you that a tree will grow as many bushels of little apples as it will big ones, and that a bushel of apples is a bushel of apples, any way you can fix it, and therefore, what's the use trying to raise them great overgrown things? Be assured my worthy friend, we have got a good deal of pruning to do before we shall get this crab-apple breed of bipeds to plant or prune good fruit trees, and plenty of them.

Ivy on Buildings.—A new idea, but a very rational one, that such a coating of foliage should protect instead of injure a building. But could not grape vines be trained upon buildings, and while protecting them from the weather, give the inmates abundance of fruit?

Connecticut Farming.—Glad to hear one of my fellow citizens commending a paper that some others have found fault with, for showing up some of the dark spots of farming in the land of steady habits, where so many steadily pursue the same old track, their steady fathers did before them.

Preparation of Bones for Manure.—Whenever you can get the steam up in the minds of people high enough to make them think of the value of the bones they now throw away, you may perhaps get them to think a little further about the mode of preparing them for manure.

To the one in ten thousand who have already begun to think of the enormous waste of one of the best fertilisers in the world, this article will be of great value, because steaming bones is a process that any farmer can carry on to good advantage, at little cost—grinding them can only be done in large establishments. But the first process toward preparing bones for manure, is like the direction of Mrs. Glass to cook a fish—first catch it. So of bones—first save them.

Madder will never be raised to any considerable extent in this country while the people continue mader than monkeys, to leave their homes in pursut of some *ignis-fatuus* fortune in California or some other land of folly. They never will plant a crop that requires three years to mature, lest they might sell out and be off before harvest time.

What Mind Will Do in Agriculture.—Well, you have told what one mind has done. How many of Mr. Delafield's neighbors have done likewise? That is, put into exercise for the benefit of their fellow creatures any of the faculties of mind with which nature has endowed them.

Protection of Sheep against Dogs.—Mr. Speaker! I move to amend that petition. Is it not written that "every dog shall have his day?"—evidently a misprint, and therefore let day be stricken out, and sheep substituted. Then every dog will have his sheep, and that will be the end of them. The writer says truly, that two species of animals cannot exist in the same neighborhood, and as I say, too, we cannot get rid of the dogs, let us give up the sheep, and save ourselves all further trouble and vexation about the matter. As for mutton, everybody knows, who has ever dined, as I have, with the great Chang Fou Chong, in China, that no dish ever equalled that of a roasted puppy stuffed with onions—*for those that like it!* It is sheer nonsense to keep sheep for the wool, since we have so many woolly heads we might shear. Whoever in this dogmatical age of the world undertakes to save his wool by crying down the dogs, is barking up the wrong tree. The people won't have it so. Not that they love their mutton less, but that they love their puppies more than they do the public welfare.

Horse Shoeing.—There is more good sense in this little paragraph than half the horse shoers in this country ever thought of. I commend it to their attention.

Ladies' Department.—The selections for this page are uncommonly good this month. Ladies, turn back and read again the articles on Rye Flour, Dress of English Women, Brown Bread *vs.* White, and Habits of Jenny Lind. What an admirable woman this is. The first of singers, generously beneficent, kind and good, strictly neat and temperate in all things, *and takes plenty of exercise in the open air!* I wish the women of America could be persuaded to imitate her habits, as detailed in your little paragraph. My daughters have done so for years. Our women seem to be afraid of exercise, especially in the open air. Want of this, with thin dress, light shoes, and tight lacing, is the great cause of their degeneracy. They are fast becoming mere parlor furniture; and gaudy, poor, and very fragile even at that. REVIEWER.

CUCUMBERS may be grown to advantage in small piles, say two or three bushels of well-rotted manure laid upon grass land. Keep the grass short, and pluck out such weeds as may start, and water if needed, which is all the cultivation required.

THE MOST EFFECTUAL WAY TO PRESERVE APPLES.—Lock them up in a dry cellar and hide the key.

NOTES FROM A KITCHEN GARDENER'S MEMORANDUM BOOK.—No. 4.

Tomatoes.—Though not tenacious of any particular variety of soil, I am nevertheless of opinion that tomatoes thrive best on that which is light and dry. They should always be placed in an open exposure, where they will receive the full benefit of the sun; and it should be the aim of the cultivator to bring this wholesome and popular fruit to maturity during hot weather, as it must be obvious to all, that the early produce is less acid, and much richer in flavor than that which comes in later. With the view of obtaining choice fruit, it should be grown on a trellis, which can be simply formed by staking each plant, and attaching small cords for the support of the larger branches. When cultivated in this way, the produce may perhaps not be so great, but the fruit will be superior in point of size, and by being kept from the ground will not be so liable to decay. The size of the fruit may still be increased by cutting off the tops of the vines when in blossom, which also has the tendency to forward it. This season, I purpose growing them on a low arbor, and for effect, plant the "large red" and "yellow" together. Of the six varieties I cultivated last year, I prefer the "smooth red." The "large yellow" is perhaps more delicate, but not so rich in flavor. The smaller varieties are valuable for those who are fond of them, when preserved, and as they can be raised almost anywhere, they are worthy of cultivation if only for ornament. The plants should not be put out previous to the 1st of June, or at least until the ground is warm and the weather settled, as the occurrence of cold, wet weather retards their growth, and not unfrequently, they are destroyed by light frosts in the month of May.

During summer, the vines are liable to be infested with a large green worm, which feeds voraciously on the leaves, and if not quickly removed, will destroy the plant.

Egg Plant.—With young gardeners, there is a prevailing opinion that the cultivation of this plant is attended with much difficulty; consequently it is not attempted. Being very sensative to cold, and requiring a long season to mature in, it is necessary, in order to have it fruit in season, to forward the plants in a hot bed, during which period of their growth, they require close attention. Their subsequent treatment, however, is simple, merely requiring to be kept free from weeds, and the ground loose around them, occasionally drawing a little of the earth up to their stems. Those who have not the convenience for raising their own plants can always, at the proper season for putting them out, procure them from the gardeners. For a moderate-sized family, six plants will be sufficient, which, if put out in good ground, in an open exposure, about the 1st of June, with ordinary attention, will produce abundantly. The "oval purple" is the earliest variety cultivated for table use, but not so rich in flavor as the "large globular." The white variety, though eatable, is grown chiefly for ornament, and for this purpose, is highly deserving of cultivation. It fruits earlier than the earliest of the purple varieties, and is more prolific, producing smaller fruit, which, from its color, as well as form, the propriety of its name, is fully realised. At advanced maturity, the color changes to yellow, and the fruit continues on the plants a long time without decay.

Okra.—In the southern states, this plant is extensively cultivated for the value of its capsules, which, when green, are highly prized in the preparation of soups. With us, though esteemed by many, it is not generally cultivated. Being sensitive to cold, the seed should not be sown too early. About the middle of May, sow in drills; then transplant to the distance of nine inches, in good ground, and they will grow to the height of seven to ten feet, and under some circumstances even higher, producing a hadsomely formed leaf and beautiful blossom. I would recommend that a small portion of the ground appropriated for tall, growing plants be assigned it.

Onions.—Requiring only a few for table use, I prefer planting early in the spring, small top onions, or sets, which should be placed at least six inches apart in rows one foot wide, in rich, strong ground, in an open exposure, and during their growth, kept thoroughly free from weeds. Being more delicate both in appearance and flavor, I select the "white silver-skinned" variety, which, by many, is considered objectionable in consequence, as stated, of not keeping sound through winter, which inconvenience I have never been subjected to.

Peppers.—If it is an object to have this stimulating fruit early, the plants should be forwarded in a hot bed, and not put out until determined warm weather. They are considered valuable for pickling, and the conspicuous fruit, forming a beautiful contrast with the leaves, is worthy of cultivation. Of the several varieties I cultivated last year, I prefer the "sweet mountain." The "Cayenne" is an interesting variety, both for its beauty and domestic uses, and for some purposes is most valuable.

Ladies' Department.

ENGLISH WOMEN.

We do not know how we can render our fair countrywomen a greater service, than by copying for their serious perusal and thought, the following admirable description of English women, from the March number of the Horticulturist, by Mr. A. J. Downing. We can corroborate from personal knowledge, all Mr. D. here says of their *greater breadth* of education, and superior conversation—we mean more particularly among the middle and higher classes.

We well recollect, when in England, passing a day at the country residence of a distinguished officer in the horse guards. There were sons and daughters of noblemen present as guests. The ladies, in very common calico dresses and thick shoes, walked over the park and farm in the morning, criticising the stock, the crops, the scenery, trees, shrubbery, and flowers, while the gentlemen were out shooting in stout fustian clothes, and thick, solid, hob-nailed shoes, such as our most ordinary farmers would hardly deign to wear. But at dinner, which took place at 6 P. M., all were elegantly dressed; the conversation throughout the evening, was easy and unaffected, but more intellectual, and embracing a much wider range, than that which pervades in any, except the very best and most highly-educated American society.

"The young English woman is less conspicuously accomplished than our young women of the same position in America. There is, perhaps, a little less of the *je ne sais quoi*, [I don't know what,] that nameless grace which captivates at first sight, than with us, but a better and more solid education, more disciplined minds, and above all, more common sense. In the whole art of conversation, including all the topics of the day, with so much of politics as makes a woman really a companion for an intelligent man in his serious thoughts, in history, language, and practical knowledge of the duties of social and domestic life, the English women have, I imagine, few superiors. But what, perhaps, would strike one of our young women most, in English society, would be the thorough cultivation and refinement that exists here, along with the absence of all false delicacy.

"The fondness of English women, (even in the highest rank,) for out-of-door life, horses, dogs, fine cattle, animals of all kinds—for their grounds, and in short, everything that belongs to their homes, their real, unaffected knowledge of, and pleasure in, these things, and the unreserved way in which they talk about them, would startle some of my young friends at home, who are educated in the fashionable boarding school of Madam ——, to consider all such things 'vulgar,' and 'unlady-like.' I accompanied the younger members of the family here this morning, in an exploration of the mysteries of the place. No sooner did we make our appearance out of doors, than we were saluted by dogs of all degrees, and each had the honor of an interview and personal reception, which seemed to be productive of pleasure on both sides. Then some of the horses were brought out of the stable, and a parley took place between them and their fair mistresses; some favorite cows were to be petted and looked after, and their good points were descanted on with knowledge and discrimination; and there was the *basse cour*, [poultry yard, we suppose Mr. D. here means, the word having several different significations,] with its various population, all discussed and shown with such lively unaffected interest, that I soon saw my fair companions were 'born to love pigs and chickens.'

"I have said nothing about the garden, because you know that it is especially the lady's province here. An English woman, with no taste for gardening, would be as great a marvel as an angel without wings. And now, were these fresh-looking girls, who have so thoroughly entered into these rustic enjoyments, mere country lasses and dairy maids? By no means. They will converse with you in three or four languages; are thoroughly well grounded in modern literature; sketch from nature with the ease of professional artists, and will sit down to the piano forte and give you an old ballad, or the finest German or Italian music, as your taste may dictate. And yet many of my young countrywomen of their age, whose education—wholly intended for the drawing room—is far below what I have described, would have half fainted with terror, and half blushed with false delicacy, twenty times in the course of the morning, with the discussions of the farm yard, meadow, and stables, which properly belong to a wholesome country life, and are not in the slightest degree at variance with real delicacy and refinement. I very well know that there are many sensibly educated young women at home, who have the same breadth of cultivation, and the same variety of resources, that make the English women such truly agreeable companions; but alas, I also know that there are many whose beau ideal is bounded by a circle that contains the latest fashiononable dance for the feet, the latest fashionable novel for the head, and the latest fashionable fancy work for the fingers."

Foreign Agricultural News.

By the steamer America, we are in receipt of our foreign journals to the 5th of April.

Markets.—Cotton has fallen ½*d.* per lb. Grain, flour, and provisions, firm, at a shade of better prices.

Salting Asparagus.—Give as much as 20 lbs. to a quare rod. Apply it after the plants have begun to grow in the spring.—*Gardeners' Chronicle.*

Influence of Light on Vegetation.—Oxygen is disengaged rapidly in solar light, insensibly in diffused light, and not at all in darkness. In the latter case, no carbonic acid gas, whatever, is given off by plants; the contrary is generally supposed to take place.—*Comptes Rendus.*

Influence of Gypsum on Vegetation.—M. C. Mène, from numerous facts deduced from experiments, came to the following conclusion:—1st. That gypsum has by itself no fertilising power, and is alone useless as a manure; 2d. That gypsum is only useful in agriculture when mixed with substances containing ammonia; in which case there is a double decomposition, and the ammonia is stored up for the use of the plants; 3d. That for gypsum may be substituted any other salt which will fix ammonia, and render it not volatile at the ordinary temperature.—*Ibid.*

To Keep Birds from Picking Fruit.—As the season is coming on for the depredations of birds, I beg to report my experience of last year, when I saved my currants and gooseberries, by winding colored worsted round and across my bushes; and my cherries, by hanging up several pieces of tin with strong thread in the different trees, two pieces being hung near enough together to clash with the wind, which sound, with the bright reflection of the tin in the sun, certainly frightened them away; and I had my due share of fruit, which, the preceding year, I was obliged to relinquish to them.—*Agricultural Gazette.*

The Use of Salt for Domestic Animals.—At a late meeting of the Royal Agricultural Society of England, in a discussion on the use of salt in agriculture, Mr. Fisher Hobbs remarked that, while he preferred the fishy refuse for application to land, he used rock salt for all the live stock on his farm, excepting pigs. for which he employed common household salt, boiled up with meal and potatoes for their food. For his horses, cattle, and sheep, he invariably used rock salt with success; the two former had always free access to it in their mangers, and the sheep in their troughs. In wet weather, the sheep would take a larger quantity of it than in dry weather. In a flock of 200, one half of which had access to salt, while the other half were debarred from it, the losses among those which had no salt were found to be from 3 to 5 per cent. greater than among those which had salt, when feeding on green crops, or food of too succulent a nature. Professor Simonds said that he could bear testimony to the legitemate use of salt, and agreed with Mr. Hobbs that sheep fed on too luxuriant grasses, without being at the same time supplied with salt, did badly. The salt corrected the injurious effect of the food, and promoted the secretion of bile. Salt marshes, he believed, never rotted sheep; while wet pastures, and their coarse food invariably were found to do so. In the Royal Veterinary College, the horses were constantly allowed to have a lump of salt by them; and when he was himself in country practice, he had salt sprinkled over the hay in the ricks, and found it very valuable for horses, sheep, and cows. He thought it a very important question for the consideration of the council.

Flax Cotton.—In the late proceedings of the council of the Royal Agricultural Society of England, we perceive that they have turned their attention to the extension of flax culture in the United Kingdom, and among other points of interest, have investigated the recent discoveries of M. Chevelier Claussen, in rendering common flax subservient to the purposes of cotton. From a little shilling pamphlet, just published by Mr. John Wiley, of this city, we learn that the principle of the discovery by which flax is adapted for spinning upon cotton, wool, and silk, independent of flax machinery, consists in destroying the cylindrical or tubular character of the fibre, by means of carbonic or other gas, the action of which splits the tubes into a number of ribbon-like filaments, solid in character, and of a specific gravity less than cotton, the upper and under surfaces of which are segments of circles, and the sides of which are ragged and serrated. This is effected by boiling the flax for about three hours, either in the state in which it comes from the field, or in a partially-cleaned condition, in water containing about one half of one per cent. of common soda. After undergoing this process, the flax is placed in water, slightly acidulated with sulphuric acid; the proportions of acid used being 1 to 500 of water. This process, producing as it does, a complete separation of the integral fibres from each other, is equally adapted for the preparation of long fibre for the linen, or of short fibre for the other branches of textile manufacture. When required to be prepared for linen, all that is necessary, after the above process, is to dry and scrutch it in the ordinary way. The advantages which this mode of preparation possess over any other mode in use, are stated in the official report of the proceedings at the Royal Agricultural Society to be the following:—

1. "That the preparation of long fibre for scutching is effected in less than one day, and is always uniform in strength, and entirely free from color, much facilitating the after process of bleaching, either in yarns or in cloth.

2. "That it can also be bleached in the straw at very little additional expense of time or money.

3. "That the former tedious and uncertain modes of steeping are superseded by one perfectly certain with ordinary care.

4. "That, in consequence of a more complete severance of the fibres from each other, and also from the bark and boon, the process of scutching is effected with half the labor usually employed."

Editors' Table.

IMPORTATION OF POTATOES.—We understand several arrivals from France have brought large quantities of French potatoes to this country, reported to be of an excellent quality. Think of this, farmers, and pause!

SALE OF SHORTHORN CATTLE.—We understand that Mr. J. G. Kinnaird, of Lexington, Kentucky, has recently sold two cows and three calves for $315; also a heifer calf, ten months old, for $100, and three bull calves for $250. Although these prices are not what they ought to be, still, they are so much better than those ruling in the west for the past ten years, that it is quite encouraging. We understand that shorthorns are quite in demand now, which breeders are selling much more readily than formerly.

TREATISE ON THE HISTORY AND MANAGEMENT OF ORNAMENTAL AND DOMESTIC POULTRY, by Rev. E. S. Dixon, with large additions by J. J. Kerr, M. D. Dixon is one of the best and most agreeable writers on this subject that England has yet produced; and the republication of the second London edition of his work, by Messrs. E. H. Butler & Co., of Philadelphia, with the additions by Dr. Kerr, will be well received in this country; though we cannot wholly agree with the writers in all their statements in regard to the value of some of the different varieties of fowls. There are 26 beautiful engravings of various fowls in this work, and those which are accurately drawn add greatly to its value. We have looked upon these engravings, upon the whole, with much pleasure, though we think the Shanghaes and other eastern breeds rather flattered in the shortness of their legs, while the Malays figured here, as belonging to Mr. Cope, are far inferior to such as are bred in this vicinity. Dr. Kerr, we understand, is about to establish himself in this city, where he will keep for sale choice varieties of fowls.

HISTORY OF THE UNITED STATES OF AMERICA, from the adoption of the Federal Constitution to the end of the Sixteenth Congress. By Richard Hildreth, in three volumes. New York: Harpers, pp. 705, octavo. Second series. The first series of this sterling work, it will be recollected, received our warmest approbation. It comprised in three volumes the story of the colonial and revolutionary times; the second series, of three volumes more, embrace the period subsequent to the adoption of the Federal Constitution, the present one being an impartial account of the administration of Washington, a period of the greatest importance, as having fixed upon the Federal Government that character and those methods of administration which it has ever since retained; important, also, for the origin and array of the party divisions which form a chief subject of the entire history. The work is well written, neatly got up, and should be placed on the shelves of every library.

AGRICULTURAL SURVEY OF NORTH CAROLINA.—The legislature of this state passed an act for this, as well as a geological and mineralogical survey of the whole state. They will find that they never made a more profitable investment than the liberal appropriation for the above survey. If properly conducted, it will reveal untold millions of treasure in the soil of this good old state.

POTATOES—NEW CROP.—James W. Gordon, of this county, presented us on Tuesday last, the 11th inst., with a fine mess of potatoes, many of them fully as large as hen's eggs, of this year's growth. He states that they were raised in this way: He had left some of the potatoes undug in the ground where they grew last year. About Christmas last, he covered the ground over with straw about 18 inches thick. During the warm days in January, he discovered the potato vines coming up through the straw, and concluded to let them grow, and see what they would do. The last spell of cold weather killed the vines, and on examination, he found them dead and rotting some two or three inches below the surface of the straw, and supposing them to be entirely dead, commenced removing the straw, and found to his surprise, a fine crop of young potatoes, neatly embedded under the straw, and to all appearance in a very flourishing condition. He also states that many of the old potatoes had taken a second growth, and attained a very large size.—*Georgia Paper.*

DEATH OF JOHN S. SKINNER.—While on a visit to Baltimore last month, Mr. Skinner accidentally fell and fractured his skull, which caused his death. He was the oldest agricultural editor in the United States, having commenced the American Farmer, in 1819. He carried on this for about twelve years, and was then made postmaster of Baltimore. From that period, till the year 1845, he continued most of the time in government employ, when he came to New York to edit the Farmer's Library. This ceased in 1849, when he removed to Philadelphia and commenced the Plow, Loom, and Anvil, of which he was editor at the time of his death. Though somewhat too diffuse in his style, and rather overgiven to flattery, Mr. Skinner was a vigorous writer, and his whole heart seemed engaged in the cause of agriculture and manufactures. He has done much in his writings for the improvement of these great industrial branches, and deserves the gratitude of his country for his labors. He was a large, fine-looking man, open and frank in his manners, persevering and energetic. His loss will be deeply felt by the community. His age at his death could not have been far from 70.

DEATH OF HON. ISAAC HILL.—Mr. Hill was a printer by profession, and long edited a democratic paper at Concord, N. H. During this time he was thoroughly devoted to politics and his party, and rose to be a senator of the United States, and governor of New Hampshire. For the last twelve or fifteen years of his life, he gave up politics, and became the editor of an agricultural paper, called the Family Visitor. This he edited with much ability, and it proved a highly useful publication to the farmers of New England. He was about 65 years old when he died. He was a man of strong passions, and of a very energetic character.

Review of the Market.

PRICES CURRENT IN NEW YORK, APRIL 17, 1851.

ASHES, Pot,	₱ 100 lbs.	$5.00	@	$5.06
Pearl,	" do.	5.69	"	5.75
BALE ROPE,	" lb.	9	"	11
BARK, Quercitron,	" ton.	33.00	"	35.00
BEANS, White,	" bushel.	75	"	1.50
BEESWAX, American, Yellow,	" lb.	20	"	27
BOLT ROPE,	" "	11	"	12
BONES, Ground,	" bushel.	45	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping,	" "	9	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	50
Stearine,	" "	25	"	30
CHEESE,	" "	5	"	10
COAL, Authracite,	2,000 lbs.	4.50	"	5.00
CORDAGE, American,	" lb.	11	"	13
COTTON,	" "	9	"	14
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	27	"	42
FLAX, American,	" "	8	"	9
FLOUR, Sour,	" bbl.	3.62	"	4.12
Ordinary,	" "	4.18	"	5.00
Fancy,	" "	5.25	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	3.37	"	3.50
GRAIN—Wheat, Western,	" bushel.	1.00	"	1.20
" Red and Mixed,	" "	90	"	1.10
Rye,	" "	74	"	76
Corn, Northern,	" "	67	"	70
" Southern,	" "	66	"	68
Barley,	" "	1.10	"	1.25
Oats,	" "	48	"	53
GUANO, Peruvian,	2,000 lbs.	47.50	"	50.00
Patagonian,	" do.	—	"	40.00
HAY, in Bales,	" 100 lbs.	60	"	70
HEMP, Russia, Clean,	" ton.	225.00	"	230.00
American, Water-rotted,	" "	160.00	"	200.00
" Dew-rotted,	" "	140.00	"	175.00
HIDES, Southern, Dry,	" "	10	"	11½
HOPS,	" lb.	6	"	35
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	4.75	"	5.00
Pipes for Pumps, &c.,	" lb.	5	"	7
LARD,	" lb.	8	"	9
MEAL, Corn,	" bbl.	3.00	"	3.37
MOLASSES, New-Orleans,	" gallon.	29	"	32
MUSTARD, American,	" lb.	7½	"	9
NAVAL STORES—Tar,	" bbl.	1.75	"	2.00
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.15	"	1.30
Turpentine,	" "	2.44	"	2.87
Spirits of Turpentine,	" gallon.	35	"	37
OIL, Linseed, American,	" "	75	"	80
Castor,	" "	1.05	"	1.15
Lard,	" "	65	"	75
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.50
Black-eyed,	" 2 "	1.75	"	2.00
PLASTER OF PARIS,	" ton.	2.50	"	3.25
Ground, in Barrels of	300 lbs.	1.12	"	1.25
PROVISIONS—Beef, Mess,	₱ bbl.	8.00	"	11.50
" Prime,	" "	4.00	"	6.00
" Smoked,	" lb.	6	"	12
" Rounds, in Pickle	"	4	"	6
Pork, Mess,	₱ bbl.	12.00	"	15.00
" Prime,	" "	8.50	"	11.00
Bacon Sides, Smoked,	" "	3	"	4½
" in Pickle,	" "	3	"	4
Hams, Smoked,	" "	5	"	9
" Pickled,	" "	4	"	7
Shoulders, Smoked,	" "	4	"	6
" Pickled,	" "	3	"	5
RICE,	" 100 lbs.	3.00	"	3.63
SALT,	" sack.	1.00	"	1.70
" Common,	" bushel.	20	"	35
SEEDS—Clover,	" lb.	8½	"	9½
Timothy,	" bushel.	2.00	"	4.00
Flax, Rough,	" "	1.60	"	1.70
SODA, Ash, (80 per cent. soda,)	" lb.	3	"	—
Sulphate Soda, Ground,	" "	1	"	—
SUGAR, New-Orleans,	" "	5	"	8
SUMACH, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	7	"	8
TOBACCO,	" "	5	"	15
Eastern, Seed-leaf,	" "	15	"	20
Florida Wrappers,	" "	15	"	60
WHISKEY, American,	" gallon.	24	"	25
WOOLS, Saxony,	" lb.	50	"	60
Merino,	" "	40	"	50
Grade Merino,	" "	30	"	40
Common,	" "	20	"	30

REMARKS.—Pork has risen since our last, while cotton has given way a trifle.

The Weather is now cold and rainy, but the season is very forward. We understand the frost has been somewhat injurious to the fruit trees in New Jersey and to the early cotton south.

TO CORRESPONDENTS.—Articles have been received from Charles Smith, George Luther, O. A. Jaques, A Visitor, and Jacob Hewes.

Whereabouts of Stud Horse American Perry.—A subscriber makes inquiry of the whereabouts of this stud horse, and is desirous to know something about his pedigree. He was a blood bay, full 16 hands high, and it is believed was raised by Daniel Sprangles, of North-Hampton County, Pennsylvania.

ACKNOWLEDGMENTS.—A package of seeds from Hon. Thomas Ewbank, Commissioner of Patents; The Pennsylvania Farm Journal, from S. S. Haldeman; Transactions of the Rhode-Island Society for the encouragement of Domestic Industry, for the year 1850.

LIGHTNING RODS, constructed on scientific principles, and if properly put up, will render churches and other buildings secure from the electric bolt.

my A. B. ALLEN & Co., 189 and 191 Water st.

COMMERCIAL GARDEN AND NURSERY of Parsons & Co., Flushing, near New York. The proprietors of this establishment offer for sale their usual assortment of Fruit and Ornamental Trees, Shrubs, Vines, Roses, &c. Their stock of Apples and Pears is finer than any they have before offered. Also, Pears on Quince, of their own growing. The Ornamental Department contains the usual well-known varieties and all the best new Trees and Shrubs for Lawns and Arboretums, including the new Pines, Araucaria imbricata, and Cryptomeria japonica, with Cedar of Lebanon, at one to two dollars each, and Cedrus deodara of various sizes, at one dollar per foot. Catalogues furnished gratis on application by mail.

o tf PARSONS & CO.

GREAT SALE OF SUPERIOR, THORough-bred Shorthorn Cattle.—The subscriber having more stock than can well be sustained on his farm, will offer at public auction, about 30 head of his Improved Shorthorn Cattle, consisting of bulls, cows, heifers, and heifer and bull calves, on the 26th day of June next, at his farm, 2½ miles from this city.

It is known to breeders of improved stock in this country and in Canada, that the proprietor of this herd, during the past 12 years, has, through the medium of importation from England, and selections from the best herds in this country, spared no expense to rear a herd of cattle from which superior animals could be safely drawn, for the improvement and crosses of other herds.

His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirkleavington, Yorkshire, England, which herd, it is well known, has recently been disposed of at public sale, by his administrators, and dispersed in many hands, and can no longer be resorted to, as a whole, for improvement. The announcement of this sale created great interest in the minds of all shorthorn breeders in England, who seemed desirous to secure one or more of these animals to mingle with the blood of their herds. At the day of sale, there was found assembled, the largest audience ever before witnessed upon a similar occasion, numbering, as it was said, from 4,000 to 5,000 persons. Among them were the best breeders in England, and several from other countries. Some of the aninals brought prices which seemed incredible to many.

In the herd now offered for sale, will be included the imported bull Duke of Wellington, and the premium bull Meteor. These are Bates' bulls, and their reputation, as stock getters, are too well known to need comment. I am, however, authorised, by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means for forming a judgment, "that in no instance, to his knowledge, has these two bulls been bred to shorthorn cows of other herds, previously imported into the United States, but what the produce were superior, in general qualities, to such herds."

Most of the stock which is now offered for sale has been bred from these two bulls. The proprietor having a young bull more remotely connected with the portion of the herd, which he retains, being about 14 in number, he can part with these two valuable bulls. There will be in the stock offered for sale six young bulls, from eight months to about two years old, in addition to the two named above. The remainder of the stock will be composed of cows, most of them possessing extraordinary milking qualities, heifer, and heifer calves, all fine in symmetry and good handlers.

It is believed that no herd of shorthorns has ever been offered for sale in this country exhibiting more of the valuable combination of qualities which contribute to make up perfect animals.

A catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the terms of sale will be fully stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience.

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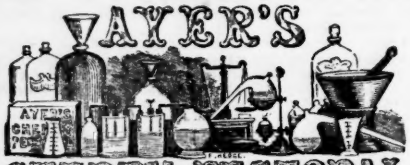

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BAGLEY'S GOLD PENS.—The subscribers would very respectfully call the attention of dealers in their wares, that they have on hand a superior article of "Bagley's Improved Gold Pens, with their new style of patent holders, together with all styles of Gold and Silver Pen and Pencil Cases, of beautiful patterns, at their warehouse, (old stand,) 189 Broadway. A. G. BAGLEY & Co.

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DOMESTIC ANIMALS AT AUCTION.—The postponed yearly sale of full-bred shorthorns and improved dairy stock, consisting of about 50 head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved dairy stock, which is composed of the finest shorthorns, with a slight cross of Amsterdam Dutch, which, some writers say, was part of the original ingredient which composed the improved shorthorns.

I am now breeding the shorthorns, Devons, and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The cow which won the first prize as a milker, at the American Institute last year, was bred by me, and composed of the above-alluded-to dairy stock. Several of the bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All cows and heifers old enough, will be warranted in calf at the day of sale, by my imported bull "Lord Eryholme," or my celebrated bull "Lamartine."

I own two thorough-bred Devon bulls; one, the celebrated old Major; the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold, which, I have not as yet determined.

A full catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk sows, in pig to my imported boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 Southdown ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported buck "Babraham." Some of their buck lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain stock from my previous herd, but will also enable persons to procure calves from my imported bull, lambs from my imported ram, and pigs from my imported boar, all of which animals were recently selected by me in person, when in England.

The mode of warranting the cows and heifers in calf, is this: In case they prove not to be so, it shall be optional with the purchaser, on his certificate of that fact, either to receive from me $25, or to send the cow to my farm, and I will keep her the proper time, (free of expense,) to have her got in calf to either of my bulls, which he shall choose. I will give $25 for any heifer calf from any of the cows or heifers sold at that sale, delivered on my farm, at two weeks old.

Stock purchased to be sent to a distance, will be delivered on shipboard or railroad in the city of New York, free of risk or expense to the purchaser.

Persons living at the south, in a climate to which it would not be well that stock should be transported, at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post Office please pre-pay, and I will pre-pay their answers, and also a catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses, and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time, will find my superintendant, Mr. Wilkinson, to give them the desired information when I am not at home.

Dated this 4th day of March, 1851, at Mount Fordham, Westchester county, eight miles from the city of New York, by Harlem Railroad. L. G. MORRIS.

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NEW-ORLEANS AGRICULTURAL Warehouse, comprising a large assortment of Plows, Harrows, Cultivators, Fanning Mills, Corn Shellers, Corn and Cob Crushers, Straw Cutters, Ox Shovels, Ox Yokes, Grain Threshers, Corn Mills, Axes, Hoes, Shovels, and other Agricultural Implements. Also, Gardening Tools, Guano, Plaster, Rock Salt, &c. &c. Orders will be executed for every article wanted by Planters.

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TOBACCO SEED.—The subscribers have just received a small quantity of the Broad-Leaf Connecticut Seed-Leaf Tobacco Seed, a pure and fresh article. Price $1 per ounce. Genuine Havana Tabacco Seed, fresh imported from one of the most celebrated plantations in the island. Price $1 per ounce. Maryland Tobacco Seed, several varieties, 50 cents an ounce. Kentucky Tobacco Seed, $1 an ounce.

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We challenge any horse in this state to show as fine stock as said horse. His colts are justly celebrated for speed, bottom, and good temper, are eagerly sought after in the market, and command prices varying from $150 to $500 and $1,000. Terms, $10 the season. Insurance to be agreed upon. Said horse will stand at the stable of James Rice, three miles north of the village of Lansingburgh. All communications addressed to J. T. Grant, P. M., Junction, Rensselaer Co. N. Y., will receive prompt attention. CALVIN MORSE.

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DESCRIPTION AND PRICES OF DRAINing Tiles.—Tubular Tile, 3-inch size, $14 per 1,000; 2½-inch size, $12 per 1,000. Horse-Shoe Tile 5½-inch size, $18 per 1,000; 4½-inch size, $16 per 1,000; 3¼-inch size, $14 per 1,000. Sole Tile, 4½ inch size, $20 per 1,000; 3½ inch size, $14 per 1,000. Drain Tile to correspond with the above description and prices will be manufactured by the subscribers as soon as the spring season will admit, and they invite farmers, gardeners, and all those requiring drains, to an examination of their tiles. They are 14 inches in length, durable and cheap. Orders from a distance with satisfactory reference, will receive prompt attention.

may 3t A. S. BABCOCK & Co., Albany, N. Y.

CHARLES SCRIBNER, (late Baker & Scribner,) has just published The Fruit Garden, a treatise intended to illustrate and explain the physiology of fruit trees, the theory and practice of all operations connected with the propagation, transplanting, pruning, and training of orchard and garden trees, as standards, dwarfs, pyramids, espaliers, &c., the laying out and arranging different kinds of orchards and gardens, the selection of suitable varieties for different purposes and localities, gathering and preserving fruits, treatment of disease, destruction of insects, descriptions and uses of implements, &c., illustrated with upwards of one hundred and fifty figures, representing different parts of trees, all practical operations, forms of trees, designs for plantations, and implements, &c. By P. Barry, of the Mount-Hope Nurseries, Rochester, New York. 1 vol. 12mo.

CONTENTS.

Part I. Describes the different parts of fruit trees—roots, stems, branches, leaves, blossoms, and fruit; explains their different characters, functions, and practical classifications. It treats, also, of soils and manures, of the best modes of propagation, and the general principles and practice of prunning.

This part is a new feature in treatises of this kind, and is intended to be the ground-work of all the operations of culture.

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We would call attention to the following abstract of Dr. Sherwood's theory of medical practice, from the Manhattan Souvenir:

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All the organs of the body are, without exception, covered with a kind of skin called a serous membrane, in which are an immense number of minute glands, with ducts terminating in open orifice on the surface. These glands excrete a watery fluid, by which the surfaces are kept constantly moist. The internal parts of the body, the mouth, œsophagus, stomach, and intestines are also lined with a membrane differing from the one above mentioned, in having a villous instead of a serous surface. The membranes enclose glands and numerous cavities, opening also upon the surface. These ducts and cavities are filled with a semi-fluid, or mucus, which is constantly issuing from them; and hence, these are called mucous membranes. In the human body, there are also four hundred and thirty-six muscles arranged for producing motion. These muscles are also covered with membrane, the outer sides of which has a serous, and the inner a mucous surface.

There are thus two surfaces in the human organisation disposed in different ways, exuding each its own fluid. Repeated experiments have demonstrated that each of these exudations gives out its peculiar electric force; the serous giving the negative, and the mucous positive; thus forming a magnetic battery in which the nerves are wires conveying the current to the brain.

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SEED SOWERS, to be worked either by horse or hand, of various styles. They plant seeds of all sizes at any required distance, opening the drills and covering the seed at one operation, and work admirably. Price of most approved, $14.

GARDEN AND FIRE ENGINES, very useful machines, arranged on wheels, for watering gardens or walks, and afford protection from fire. They will throw a strong stream 40 feet high, are easily worked and not liable to get out of order. Also, small Garden Pumps and Syringes of various styles.

HARROWS.—The most approved is Gedde's Double Triangular-Folding Harrow, which readily adapts itself to any uneveness of the soil, and with the same labor does the work better, and more thoroughly, than any other kind. Also, the common Square Harrow, and Double-Square or Scotch Harrow, which can be used either as a one or two-horse harrow. Also various other kinds.

CULTIVATORS.—Rodgers' Self-Sharpening Steel-Toothed is among the best; also a great variety of wrought and cast-tooth cultivators, both with and without wheels. The Universal Cultivator has an iron frame, arranged for different kinds of teeth among which are two molds, that, by transferring from one side to the other, the earth may be thrown either to or from the plants, as may be desired. All the different styles are made to expand or contract, to conform to the width of the rows.

PLOWS, of a great variety of styles, sizes, and patterns, made in the most durable manner, and with the latest improvements, suited to all kinds of soils, crops, and modes of cultivation, embracing the celebrated Eagle, Miner & Horton, and Steel-Pointed, Self-Sharpening Plows; Lock-Coulter Plows, expressly for breaking up and working new land; Side-Hill, Sub-Soil, Double-Mold and Three-Furrow Plows. Also, a large variety of the most approved Southern plows, particularly adapted to cotton, sugar and rice cultivation.

TIMOTHY SEED, fresh reaped, a choice article.

POUDRETTE, a good article at manufacturers' prices.

MATTOCKS, Pick, Grubbing hoes adapted to all kinds of work.

GRINDSTONES of superior grit and quality, hung on improved friction rollers, to work either by foot or hand.

SMUT MACHINES, Pilkington's, the most approved for general use. Price $60.

WAGONS AND CARTS made to order of any desired pattern, in the best manner.

GUANO.—A full supply of genuine Peruvian and Patagonian Guano.

BONE DUST, a very superior article, warranted perfectly pure.

GROUND PLASTER, OR GYPSUM, a pure article, put up in barrels, at low prices.

WATER RAMS, Suction, Force, and Endless-Chain Pumps; Leather, Gutta-Percha, India-Rubber Hose, Lead Pipe, &c.

HAY AND COTTON PRESSES.—Bullock's Progressive Power Presses, combining improvements which make them by far the best in use.

HORTICULTURAL TOOLS, a most complete assortment, consisting of Pruning Saws and Chisels, Pruning and Budding Knives, Pruning, Garden, Hedge, Flower and Vine Shears and Scissors, Garden Trowels, Forks, Hooks, &c.

HORTICULTURAL TOOL CHEST, containing a good assortment of implements, most of which screw to the same handle, a very handy and convenient article.

GRAIN MILLS, Corn and Cob Crushers, Fanning Mills, Corn Shellers, and Straw Cutters, a very large assortment of the best and latest improved kinds.

FIELD AND GARDEN SEEDS of every variety required in the United States, fresh, and of the choicest quality.

FOREIGN SEEDS, of superior quality and late importation.

GRASS SEEDS.—Ray Grass, Lucern, and White Dutch Clover.

GARDEN SEEDS.—A large stock selected with care, expressly for the American Market.

TOBACCO, OIL AND SEED PRESSES, made on progressive principles, to take the place of the Hydraulic press. These are much more efficient than the latter, at the same time they are more economical. Their superior merits have been recently satisfactorily tested by several large oil manufacturers in this vicinity, where the machines may be seen in operation

MACHINE SHOP AND FOUNDRY.—Connected with our Agricultural Warehouse and Seed Store, we have a large Machine Shop, with Steam Power and Foundry, where any Implement and Machine can be made to order, which is required for the Farm, Plantation, Garden, &c.

HORSE POWERS of all kinds, guaranteed the best in the United States. These embrace,

1st. The Chain Power, of our own manufacture, both single and double-geared, for one and two horses, which has never been equalled for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2d. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3d. Eddy's Circular Wrought-Iron Power, large cog wheels, one to six horses, a new and favorite power.

4th. Trimble's Iron-Sweep Power, for one to four horses.

5th. Warren's Iron-Sweep Power, for one or two horses.

A. B. ALLEN & CO.